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The Siddhantas and the Indian Calendar

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BEING A CONTINUATION OF THE AUTHOR'S

"INDIAN CHRONOGRAPHY"

WITH AN ARTICLE BY THE LATE DR. J. F. FLEET
ON THE MEAN PLACE OF THE PLANET SATURN



BY ROBERT SEWELL, M.R.A.S.,

LATE OF H. M.'S INDIAN CIVIL SERVICE; JOINT AUTHOR OF "THE INDIAN CALENDAR",
AUTHOR OF "THE AMARAVATI TOPE", "ANTIQUITIES OF MADRAS", "INDIAN
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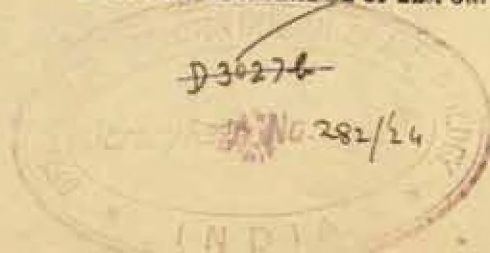
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ECLIPSES OF THE MOON IN INDIA (1898).

INDIAN CHRONOGRAPHY (1912).

MESSRS. GEORGE ALLEN AND UNWIN, RUSKIN HOUSE, MUSEUM STREET, BLOOMSBURY,
LONDON, W.C. 1

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ERRATA PAGE.

Indian Chronography, p. 62. For the calculation at top of page substitute the following:—

| | h. | m. | s. |
|--|----|-------------|-----------------|
| True Mēsha-samkrānti by <i>Ārya-Siddh.</i> (Table | | | |
| I), A.D. 1899 | 12 | April (102) | 4 Wed. 6 7 30 |
| Add śodhya by <i>Ārya-Siddh.</i> | 2 | 2 2 | 3 32 30 |
| Mean Mēsha-samkrānti by <i>Ārya-Siddh.</i> | 14 | April (104) | 6 Fri. 9 40 0 |
| For 5,000 years deduct (Table on p. 61) | -1 | -1 -1 | -5 10 0 |
| Mean Mēsha-samkrānti by <i>B.-S.</i> and <i>S.-Śirā.</i> | 13 | April (103) | 5 Thur. 4 30 0 |
| Deduct <i>Siddh.-Śirōmaṇi śodhya</i> | -2 | -2 -2 | -4 20 56.8 |
| True Mēsha-samkrānti by <i>Siddh.-Śirōmaṇi</i> | 11 | April (101) | 3 Tues. 0 9 3.2 |

True Mēsha-samkrānti, then, by the *Siddhānta-Śirōmaṇi*, occurred on Tuesday, April 11th, A.D. 1899, at 0^h 9^m 3^s.2 after mean sunrise.

Line 18 from top.—For 101^d 0^h 22^m read 101^d 0^h 9^m.

Line 19 from top.—For 217^d 17^h 11^m read 217^d 16^h 58^m.

Line 21 from top.—For 578^d 17^h 40^m read 578^d 17^h 27^m.

Line 24 from top.—For 17^h 11^m read 16^h 58^m, and for 17^h 40^m read 17^h 27^m.

PREFACE.

The present volume contains a number of articles separately published from time to time in the pages of the *Epigraphia Indica* and forming a continuation of my former work on the same subject—*Indian Chronography*,¹—which itself was supplementary to *The Indian Calendar*² (Sowell and S. B. Dikshit) issued in 1896. At the end is reproduced, by the kind permission of the Council of the Royal Asiatic Society, a treatise with Tables by the late Dr. J. F. Fleet dealing with the planet Saturn.

The Tables in *Indian Chronography* having been numbered in continuation of those in *The Indian Calendar*, and the Tables contained in the *Epigraphia Indica* as well as the paragraphs of the texts having been similarly numbered in continuation of those in *Indian Chronography*, it is considered advisable, rather than start afresh here with new numbers, to adhere to the original design; and so to prevent confusion and to avoid giving trouble to those workers who may have become habituated to the use of the older books and of the sets of Tables as originally published.

There appears to be no necessity to describe over again in this volume the whole chronological and calendrical system of the Hindus, nor the particular method adopted in this and in the former works. Full explanation has been given in those volumes. Our method is the method called the *a, b, c* system of Largeteau, with which Professor Jacobi of Bonn made us familiar, and with which students of the subject must by now have become well acquainted. It is based on measurement by division of the great circle into ten-thousand parts, and has the great advantage of being applicable to both time and space. It is described in *Indian Chronography* (§§ 19A-26, pp. 7-9).

Results of greater accuracy than heretofore can be obtained by the use of the Tables here presented, since the figures are given with four decimal places instead of as previously in whole numbers, and so give us planetary positions correct to a quarter of a second whether of space or time. The time-unit of the *Indian Calendar* is $4\frac{1}{4}$ minutes; that of Rao Bahadur L. D. Swamikannu Pillai's *Indian Chronology* is about 14 minutes. Very correct results can also be obtained by Professor Jacobi's *Special Tables* published in Vol. I of the *Epigraphia Indica*, but as these are stated in degrees, minutes and seconds they are a little troublesome to convert into time-reckoning.

The processes to be followed in computing the details of a date by the Tables are in each case explained in the Examples given at the end of the several articles. It is only necessary to work by these and to be careful to use the proper Tables. The most detailed set of examples is that which is included in the article on "*The First Ārya-Siddhānta—true system*"; and any student of the subject who is not thoroughly acquainted with our method of calculation (when using the apparent motion of sun and moon) is recommended to go through these carefully before he embarks on computation by the other astronomical authorities of India. The manner of fixing the *mean* places of the sun and moon at any moment is described in the articles devoted to *The First Ārya-Siddhānta* and *Brahma-Siddhānta* mean systems.

Several General Tables applicable to all the *Siddhāntas* have been taken from *The Indian Calendar* and *Indian Chronography*. These are required in order to fix the day of the month and week-day according to the European calendar, as well as for other purposes. Most of them

¹ Messrs. George Allen & Unwin, Baskin House, Museum Street, Bloomsbury, London, W. C. (1912).

² Messrs. Swan Sonnenschein & Co. *The Indian Calendar* (1896) was followed by *Eclipses of the Moon in India* (1898) published by the same Firm; now Messrs. George Allen & Unwin.

are included amongst the Tables which deal with the *First Ārya-Siddhānta*—"true" system. Such are Tables LXII, LXVIII, LXIX, LXX (to which a supplement has now been added by Tables XCIVA-F at the end of the volume), and LXXI. This assists the worker to complete all necessary calculations without having to refer to any other volume.

The Tables now published enable dates to be verified according to the requirements of the *First Ārya-Siddhānta* (mean motions of sun and moon) from A.D. 500 to 1400, and (true or apparent motions) from A.D. 900 to 1900; by the *Brahma-Siddhānta* (mean motions) from A.D. 600 to 1400, and (true motions) from A.D. 000 to 1200; and by the *Siddhānta-Siromaṇi* (true motions) from A.D. 1100 to 1900.

These Tables, coupled with those for the *Sūrya-Siddhānta* given in the *Indian Calendar* and in Rao Bahadur L. D. Swamikannu Pillai's *Indian Chronology*, cover the whole ground as yet possible to explore.

The Indian Astronomical authorities.

The earliest available information as to the study of astronomy in India is obtained from the *Vedānga Jyotiṣha*, the character of which is, however, mostly astrological. Here, as well as in the *Bṛāhmasphuṭa* mention is made of the most ancient division of the year into three natural seasons, evidently, like those of the Egyptians, agricultural in origin and therefore essentially solar. The Egyptian division was into the three seasons of sowing, growing, and harvest. The three early Indian divisions, each of four months, were *Grīṣma*, *Vaṣṭhā*, and *Hēmaṇta*. This division, being one seemingly of natural origin, and therefore popular, lasted for many centuries. An inscription of a Pallava king¹ in South-India at the close of the 5th century A.D. records the date as in the third fortnight of *Hēmaṇta* and the 13th day; and similarly with other records of about the same period issued by Kadamba kings² and the Guptas.³

Lunar motions were, of course, carefully observed from the earliest times, and the twelve lunar months were adapted to the solar seasons by the periodical interpolation of a lunar month.

A later solar division of the year was into six double-months, viz. *Vasanta* (spring), *Grīṣma* (summer), *Vaṣṭhā* (rains), *Śarad* (autumn), *Hēmaṇta* and *Sisira* (the cool season).

Later still, when the knowledge of solar astronomy had considerably developed, came the modern division into twelve solar months, with the lunar months adapted by interpolation.

Anciently the lunar months had seasonal names, a list of which is given in the *Indian Calendar*, p. 24. The modern names of the lunar months are stellar, being derived from the *nakṣatras*.

The 27 *nakṣatras*, or divisions of the ecliptic circle, otherwise "asterisms" or "lunar mansions," are mentioned in the *Vedānga*, but were not commonly used for recording dates or as essential parts of the daily calendar till about the 10th century A.D.

From about B.C. 300 onwards there was constant communication and traffic, both by sea and land, between India, Persia, and Greece, and the Hindus became acquainted with the principles of Greek, and later on of Roman, astrology and astronomy. Attracted at first by the astrology of the Westerns they were eventually led, after several centuries, to adopt their astronomy also.

Professor Jacobi has called attention to the fact that the twelve signs of the zodiac were not heard of till the time of Firmicus Maternus (A.D. 336); and it was near about A.D. 400 before these were finally accepted as essential parts of the Indian astronomical system, which was based on the astrology of Firmicus and of Ptolemy Alexandrinus (A.D. 378). Thus it is

¹ The Oṃcōḍu (? Oṃcōḍu), Nellore District, inscription of Vijaya Skandavarman Pallava. *Ep. Ind.*, XV, 246.

² E.g. *Indian Antiquary*, VII, 37.

³ Kumāraśrī, A.D. 431 (*Ep. Ind.*, II, 262 f.).

probable that all the known astronomical works earlier than the *First Ārya-Siddhānta* (A.D. 499), with the exception of the very ancient *Vedāṅga*, were composed between (about) A.D. 350 and 500.

Four such works are mentioned in the *Pañcha Siddhāntikā* of Varāhamihira (c. A.D. 550). They are the *Paitāmaha-Siddhānta* and the *Rāmaka*, *Paulīsa*,¹ and "Original"² *Sūrya-Siddhāntas*. Fleet considered that the *Paitāmaha-Siddhānta* was merely the *Jyōtiṣha Vedāṅga* under another name.³ The elements of none of these four authorities are known and therefore no reliable Tables can be drawn up for calculation according to their requirements. We only come to firm ground at the end of the 5th century A.D.

In A.D. 499 was produced the *Āryabhaṭṭīya*, or *First Ārya-Siddhānta*, of the astronomer Āryabhaṭa. The elements of his system are well known and are fully dealt with in the section of this volume devoted to that work, so far as they affect the preparation of the almanac.

About a century later was composed the *Brahma-Siddhānta* of Brahmagupta (A.D. 628), which introduced certain new principles into the Hindu astronomical system, notably the slight but constant shift of the points of the sun's apsis (Hindu astronomy always treats the sun as a planet).

In A.D. 638 or thereabouts Lalla introduced a *bija*, or correction, into three of the elements of the *Ārya-Siddhānta*.

About A.D. 950 appeared the *Mahā Ārya-Siddhānta*, called in these volumes "the Second Ārya." S. B. Dikshīt thought that it was nowhere in use for a long time; and for that reason it has not been thought necessary to provide general working Tables based on its requirements. Allusion is made in it to another work, the *Parāśara Siddhānta*, which is not now extant.

Fifty years or so later—the exact date has not been discovered—was composed the "Present" *Sūrya-Siddhānta* by an author whose name is lost. It has become the most important authority for the preparation of almanacs in large parts of India, and its contents have been made available from several manuscript copies. It is supposed to have come into general use about the beginning of the 12th century A.D., superseding the "Original" *Sūrya-Siddhānta* in the tracts where the latter had been used.

From about this period therefore there have existed three distinct schools of astronomy in India, namely the Ārya, Brahma, and Saura schools.

The *Rājamaṛigāṅka* (A.D. 1042) was the next important work to appear. It followed the *Brahma-Siddhānta*, but with certain corrections. No complete copy of it is known to exist, but S. B. Dikshīt was convinced that, so far as regards the preparation of the almanac, its results were the same as those obtained by the use of the later and better known *Siddhānta-Śiromaṇi*.

The *Karaya-prakāśa*, a commentary and guide based on the *Ārya-Siddhānta* of Āryabhaṭa as corrected by Lalla, was composed in A.D. 1092. It is an authority still used in Central India by the framers of *pañchāṅga*.

In A.D. 1150 Bhāskarāchārya produced his *Siddhānta-Śiromaṇi*. It followed the Brahma school and was adopted as a standard in succession to the *Brahma-Siddhānta*, whose elements as corrected by the *Rājamaṛigāṅka*, it generally accepted. It differed however in certain respects, and amongst others in its estimate of the rate of shift of the sun's apsidal points; and

¹ Two other *Paulīsa-Siddhāntas* are mentioned by a writer of A.D. 966. The name is derived, so Al-Bīrūnī tells us, from "Paulus the Greek," otherwise Ptolemy Alexandrinus.

² So called to distinguish it from the "Present" *Sūrya-Siddhānta* of about the early 12th century A.D.

³ See note 2, p. 157, *Indian Chronography*.

in consequence of this it differed in the fixture of the exact moment at the beginning of each solar year when the true sun reached long. 0° , or the moment known as "true *Mēsha-sankrānti*," marking the true sun's entry into the first zodiacal sign *Mēsha*.

Following one or other of these schools there have been prepared at different times a number of *Karāṇas*, or treatises, for the guidance of those whose duty it has been to prepare local almanacs in all parts of India. And since these authorities differ slightly in their estimates of the laws that govern planetary phenomena it follows that there must be differences between them in the results obtained. There will often, for example, be a difference of one in the number of the *tithi* associated with (because ending within the limits of) a certain civil day. In intercalary years there will often be a difference of one in the lunar month intercalated or suppressed; and there are cases where by one authority a lunar month was intercalated and another suppressed, while by another there was neither intercalation nor suppression in the year concerned. There are also a number of cases in which the cycle-name of the Jovian cycle of sixty *samvatsaras* given to a year by one authority is different from that given by another.

Hence it is obvious that if anyone attempts to verify a date, whether for historical or judicial purposes, solely by one of these authorities to the exclusion of others he is liable to arrive at an erroneous conclusion. No one set of Tables, still less any ephemeris, based on the principles of a single authority can be safely used for the settlement of dates of all times and places. The correct course is to test the date by the authority generally believed to have been in use in the tract and at the period to which it apparently belongs, and, if such examination does not yield satisfactory results, then to try it by other possible authorities and systems.

Verification of dates of different periods.

It is of the utmost importance to remember that prior to the middle of the 11th century A.D. dates were, probably in all parts of India, calculated by the mean motions of the sun and moon; and that the same system may have lasted for many years later in some parts. It is only since that time that it has become the custom to use "true" or apparent solar and lunar motions.¹

It has been stated above that the earliest Hindu astronomical authority on which we can depend for the formation of reliable Tables is the *First Ārya-Siddhānta*, composed in A.D. 499-500. It is almost certain that no mention will be made in dates earlier than this of any other detail than the year and the lunar month and *tithi*, and for that reason such dates cannot be verified. An approximation, however, is possible, and as a guide to the attainment of this a note of some length will be found at the end of this Preface.

Dates between A.D. 500 and 628 should be computed by the Tables herein given for the *First Ārya-Siddhānta—mean system*, and with the use of *pūrṇimānta* lunar months, i.e. months beginning with full, and not with new, moon. The Tables are numbered LXXVI to LXXXI.

Dates between A.D. 628 and 1000 must be tested by both the *Ārya-Siddhānta—mean system* and the *Brahma-Siddhānta—mean system* Tables. These are respectively Tables LXXVI to LXXXI and XC to XCIII. The lunar month system may have been *pūrṇimānta*, beginning with full moon, or *amānta*, beginning with the next following new moon. The earlier the date is

¹ Some Western Chālukyan records in the Bellary District of the Madras Presidency seem to prove that the *Brahma-Siddhānta mean system* was used till late in the 11th century; certainly one of them carries the practice down to A.D. 1141. This is an inscription of the fourth year of Jagadēkamalla II at Sindigēri, Bellary Taluq.

the less likely is it that the *amānta* system was used. Moreover the *pūrṇimānta* system is more common in the north than in the south of India.

The *Present Sūrya-Siddhānta* was composed about A.D. 1000, and, as already mentioned, there were since that time three distinct schools of astronomy in India—*Ārya*, *Brahma*, and *Saura*—each of which had its devotees. Dates between A.D. 1000 and 1150 should be examined in turn by the Tables given below for the *Ārya* and *Brahma-Siddhāntas* as well as by the Tables for the *Sūrya-Siddhānta* contained in the *Indian Calendar* (Tables I to X); testing them first by the mean system and afterwards by the “true” or apparent system.

The *Siddhānta-Śirōmaṇi* supplanted the *Brahma-Siddhānta* at some period subsequent to A. D. 1150, the date of its composition. Dates therefore subsequent to A.D. 1150 should be examined by the *Ārya*- and *Sūrya-Siddhāntas* and the *Siddhānta-Śirōmaṇi*; in later times solely by “true” solar and lunar motions, but in earlier times by their mean motions also. The *Siddhānta-Śirōmaṇi* Tables are LIV, A and B, to LX. They have been calculated solely by true or apparent planetary motion; but since Bhāskarāchārya, the author of that work, was a follower of the *Brahma* school the Table prepared for the *Brahma-Siddhānta* mean system may be used for *Siddhānta-Śirōmaṇi* mean system calculation once the year is known. It is not probable that the mean system was anywhere in use after A.D. 1400. Since A.D. 1150 it may be taken for granted that the lunar month system in Southern India has been *amānta* and in Northern India *pūrṇimānta*.

Some hints.

The mistake generally made by those who, whether for pseudo-historical purposes or in perpetration of a fraud, take upon themselves to invent the details of an imaginary past date, is to enlarge too much. They state not merely a lunar month and *tithi*, but add a week-day, the number and name of a solar month and day, the name of a *nakshatra* or *yoga* and so on, with the idea of creating an impression of great accuracy. And here they trip themselves up. For, the almanacs of years long past having of course disappeared, it would be little less than a miracle if all these details, depending as they do on the exact positions of the sun and moon at a particular moment of time, could be guessed correctly.¹

But there are other ways by which, sometimes, a stated date may *prima facie* be judged and condemned, and it will be well to call attention to some of these. A forged date often mentions details which were not in use at the time pointed at, or states the year of an era belonging to a time when that era was never quoted. The following points should be noted and borne in mind by those concerned in arriving at the truth.

The planetary names of the days of the week—the day of the sun, of the moon, etc.—were introduced from Greek astronomy into India not long prior to A.D. 400, the Romans having adopted them for general use from about the year A.D. 200. Fleet treats of this matter in an article in the *Journal of the Royal Asiatic Society* for 1912 (pp. 1039 ff.), explaining the order of these names from the rules of Paulus Alexandrinus. The earliest known

¹ I have lately published in the *Journal of the Royal Asiatic Society* a paper containing a critical examination of the dates quoted by the author Merutunga, in his *Prabandha Chintāmaṇi*, a work of professedly historical character, in which the dates—many of them nominally belonging to a time long past—contain a number of the details referred to. The result of the examination goes to show that at least many of these details were inserted at random, and therefore that no date can be depended upon as genuine. If some parts of a date are manifestly the outcome of the author's imagination, no trust can be put upon any part of it. In every date quoted in the work the name of the *nakshatra*, which gives the position of the moon in the heavens, is totally wrong, and quite incompatible with the moon's place on the day intended as set forth in the other details of the date. The author was evidently in no sense an astronomer. He entered details at random and trusted that none of his readers would discover the truth.

genuine instance of the use in India of these planetary names is in a Gupta inscription of A.D. 484. The next is a record of date just earlier than A.D. 578. Kielhorn noted two, one from the Nellore District on the east coast of the Madras Presidency, and one from Banavāsi in North Kanara, respectively in A.D. 664 and 692. The practice only became more common after A.D. 900. So that a date professedly earlier than that should, if it mentions the day of the week, be looked upon with suspicion; and, if it should profess to belong to a year earlier than A.D. 400, should be treated as almost certainly fabricated.

The *pūrṇimānta* system of naming the lunar months as beginning astronomically with the moment of full moon prevailed over all India in early years; and still does so in the north; while the *amānta* system, by which the month begins with the succeeding new moon, has succeeded it in the south. The earliest genuine inscription-date known to Kielhorn which was in *amānta* reckoning belongs to the year A.D. 794, and is contained in the *Paṭhān* plates of the Rāshtrakūṭa king, Govinda III.

The solar *samkrānti*—the entrance of the sun into one of the signs of the zodiac—is not known to have been definitely mentioned in any inscription earlier than the 10th century A.D. It is found, however, in a record of one of the Western Gāṅga kings of the peninsula in A.D. 975. But setting aside the actual mention of a *samkrānti* as such, we know for a fact that the solar months, as divisions of time, were used in the Tamil country of the south, in preference to the lunar months, from about A.D. 900 onwards. A record in South Arcot of the Chōla king Parāntaka I,¹ dated in a year corresponding to A.D. 943, mentions the *nakṣatra*, solar month and week-day—"Rāvatī, Saturday in Makara." In more modern times the lunar tithi is also stated, but not the lunar month. In the Telugu country after about A.D. 950 the solar months were often named; but they were ancillary to the lunar months which took first place.

The *nakṣatras*, or stellar divisions of the ecliptic, were known in late Vedic times and were used for astrological purposes; but they were not commonly mentioned in dates till about the 10th century, after which their employment became common. The Singhalese *Dīpavamsa*, however, the compilation of which ceased about the middle of the 4th century, mentions the *nakṣatra* in which the moon stood at the time of the anointing of one of the kings of Ceylon. Only one of the Gupta records mentions a *nakṣatra*; this was in A.D. 705, in the reign of Mānadhvā.²

The *yoga* is a purely astrological fixture, and is seldom mentioned in the dates of inscriptions, though doubtless it was held to be of great importance in the matter of ceremonial observances, rites and sacrifices.

The *samvatsaras* of the sixty-year and twelve-year cycles of Jupiter. Dr. Burgess was of opinion that the years of the Jupiter cycle with their individual names were first introduced into the Indian calendar about A.D. 350. Judging from discovered records it would appear that the cycle more commonly used in early years was that consisting of twelve years, named after the twelve lunar months with the prefix *Mahā* (e.g. *Mahā Chaitra*, *Mahā Vaiśākha*), the cycle of sixty *samvatsaras* being contained in five 12-year cycles. A table showing the working of this arrangement is given in *The Indian Calendar* (Table XII, p. cxxi) and in *Indian Chronography* (Table XXXII, p. 152). Three Gupta inscriptions of A.D. 475, 482 and 510 fix the dates by the number of the year of the Gupta era and by the 12-year cycle-names "*Mahā Vaiśākha*," "*Mahā Āśvina*," and "*Mahā Chaitra*" respectively.³ From about

¹ No. 359 of Mr. Banikchāri's List, Vol. I, South Arcot *Epig. Reports*, No. 735 of 1905. *Epig. Ind.*, VIII, 261. This is the earliest Chōla date that, according to the late Dr. Kielhorn, is capable of verification.

² No. 494 of Professor Kielhorn's List of inscriptions in Northern India. (*Epig. Ind.*, v, Appendix, p. 69.)

³ Kielhorn's *Inscriptions of Northern India* (*Epig. Ind.*, v), Nos. 451, 453, 456.

A.D. 550 onwards the sixty *sahvatsara*-names were more generally used. Varāhamihira, who died in A.D. 587, mentions them all. No instance, however, has been as yet met with in a record of date earlier than A.D. 602, and doubt has been expressed whether the name in that case was really intended to be read as being the *sahvatsara*-name of the year. If this is set aside the earliest instance is in the Alās plates of the Rāshtrakūṭa king Govinda II, A.D. 770.

The *lagna*, or the rising on the horizon of a sign of the zodiac, is sometimes noted on a record. Its function is to fix the time of day of the action commemorated to within a space of two hours. Kielhorn states that the earliest instance of its use with which he was acquainted is in an Eastern Chalukyan inscription of King Amma II in the Telugu country, the date of which is A.D. 945. But it is said to have been used in Cambodia at an even earlier date.

It is advisable to take careful note also of the mention of an era in dates of professedly very early times; for it sometimes happens that a document (perhaps a copper-plate title-deed) can be readily recognised as a forgery by reason of the quoted date stating the year of an era belonging to a period when that era had not come into use in the preparation of almanacs. In such cases the following notes will be found useful.

The *Mājara-Vikrama era*. Up to the present no date has been found which definitely mentions this era earlier than A.D. 436; though one has been brought to light at Bijayagadh in Rajputāna, which has been held to be *possibly* a genuine date and belonging to this era, and which is as old as A.D. 372.

The *Kaluchuri-Chēdi era*. The oldest known inscription in this era, dated in the year "207," is engraved on the Pārḍi (Surat) plates of Dahrasena, the corresponding year being A.D. 456 or 457.

The *Śaka era*. The earliest known date in this era is "Śaka 500 expired," or A.D. 578. This is at Bādāmi. In the north the earliest known is dated "Śaka 784 expired" or A.D. 862. It was found at Dēōgadh in the Central Provinces.

The *Kaliyuga era*. The earliest known record which mentions this era is a Chalukyan inscription of King Pulakēśin II found at Aihole, the corresponding year A.D. being A.D. 634-35. The next belongs to the year A.D. 770, and the next to A.D. 866. These are all in the peninsula. In Northern India the earliest known is one of date A.D. 1169, or 1170.

Variation in Hindu practices.

The Tables in this volume are designed for the purpose of enabling workers to obtain the desired result *scientifically*—that is to say, a result following from calculation based on the elements and postulates of each of the Siddhāntas dealt with. Whether these elements and postulates were on all occasions fully and accurately adhered to by the framers of local almanacs is another matter altogether. And again it must never be forgotten that whereas the Tables deal always with the moment of *mean sunrise* on the civil day concerned, the almanac employed at the time of the composition of the record may have been prepared for the moment of *true sunrise* at the principal town in the locality. *True time* also may have been used instead of *mean time*; and whole numbers alone may have been employed for the necessary calculations, all fractions being omitted. Any one of these things may, in close cases, make a difference of one in the number of the *tithi* that gave its name to the day, and sometimes also a difference in the name of the lunar month.

An instance of the difference of practice referred to will be found in the following notes made by a scientific writer a hundred and thirty years ago. Henry Cavendish, F.R.S., read a

paper in A.D. 1792 before one of the learned societies of London on the Hindu calendar. It was published in *Philosophical Transactions* (Vol. 82, p. 383 ff.) and has lately been reproduced with his other essays by the Cambridge University Press in a volume entitled "*Scientific papers*." The author had been carrying on a correspondence with Mr. Charles Wilkins in India, and had obtained from him three *patras* (*pañchāṅga*, almanacs), one from Benares, one from Thānā in the island of Salsette near Bombay, and one from Nadiya, north of Calcutta. As to the second he writes:—"It appears to be a copy of a Benares *patra*, as it is disposed in the same form as the first, and is adapted to the same latitude and longitude." We learn therefore that the *Pañchāṅg*-Brahmans of Thānā did not make any changes in the Benares almanac so as to suit the precise geographical requirements of their own country. They were content, at Bombay, to calculate for sunrise as it befel at Benares.

But another of Cavendish's correspondents, Samuel Davis of Bhāgalpūr, who was in possession of a copy of the *Sūrya-Siddhānta* and had translated part of it, informed him that, whereas in the north of India almanacs were prepared by specially trained men at three centres, Benares, Nadiya and Tirhut, they (the almanacs) were subject to alteration when scattered over the country to different places. These *patras*, he says, "are annually dispensed throughout the adjacent country. Every Brahmin in charge of a temple, or whose duty it is to announce the time for the observance of religious ceremonies, is furnished with one of these almanacs and, if he be an astronomer, he makes such corrections in it as the difference of latitude and longitude render necessary." Here then is evidence that at least in some parts of India, if not in all, the local almanac of one tract may have differed slightly from that used in another even in the same year.

Tables F and G in my "*Eclipses of the Moon in India*" (pp. 4 to 6c) state the correction from mean to apparent time for every day in the year and for 1700 years past, and also give the apparent ("true") time of the rising and setting of the sun in different latitudes at all seasons of the year. Rao Bahadur L. D. Swamikannu Pillai has given a very elaborate Table of sunrises in his *Indian Chronology* (Table XIII), occupying 36 pages.

These differences must of course be allowed for before condemning a date as unsound.

When examining a date which states the number of a day of a solar month, as, for instance, "the 12th day of Kanyā," it must not be forgotten that there are four distinct rules, observed respectively in Bengal, Orissa, in the Tamil country and in Malabar, for fixing the first civil day of the solar month. These rules are clearly given in the *Indian Calendar* (p. 12) and in *Indian Chronography* (§ 43, pp. 18, 19). The operation of these rules depends upon the hour of the day on which the solar *samkrānti*, that is the entrance of the sun into the zodiacal sign, takes place. If, to take our example as an instance, the Kanyā *samkrānti* in the given year was found, in the ordinary course of calculation by any of the Tables, to have occurred more than 18 hours after sunrise on a certain day, then by the Bengal rule the civil day called "1st Kanyā" was the third day later; whereas by the Orissa rule, when the Amli or Villāyati era was in use, the "1st Kanyā" was the same day as that on which the *samkrānti* took place; and by the Tamil rule it was the next day. Hence the day called "12th Kanyā" was in one tract two days later than the day so called by the people in another tract. The difference, however, can never be more than two days.

Lastly a word about the intercalation of lunar months when the *pārgamānta* system of naming the months was in force, i.e. the system whereby the month begins at the full moon next previous to the new moon which marks the beginning of the *amānta* lunar month. It will be seen from the *Indian Calendar* (§§ 45-49, and Table, p. 26) that there has existed more than one system of naming the halves, or fortnights, of intercalated, *pārgamānta* months. It is not

necessary to reproduce here all the articles and Table relating to the subject, but merely to call attention to it.

Note on calculation in N. India in A.D. 1792.

It may be as well to note one or two interesting points in the essay by Henry Cavendish referred to above and written in 1792. He makes it clear that the almanacs of that day at Benares were prepared by the *Sārya-Siddhānta*, while, so it may be inferred, those framed at Pondicherry followed the *Ārya-Siddhānta*. This of course was to be expected.

Analyzing a Benares patra of 1792 Cavendish states that the true solar year "began, according to the principles delivered in the *Sārya-Siddhānta*, on April 9 at 22^h 14^m after midnight of their first meridian, which is about 41^m of time west of Calcutta"¹; and adds: "But according to Mr. Gentil's account of the Indian astronomy it began 3^h 24^m earlier."

M. Le Gentil went to Pondichéri in 1769 to study the transit of Venus and stayed there nearly two years, employing his time in acquiring a general knowledge of Hindu astronomy.

By the *Sārya-Siddhānta* (*Indian Calendar*, Table I, p. *see*, col. 17a) the moment of beginning of the true solar year on "the first meridian," i.e. on the longitude of Ujjain, was, in A.D. 1792, at 16^h 12^m after mean sunrise on 9 April, i.e. at 22^h 12^m after the previous midnight. Mr. Swamikannu Pillai (*Indian Chronology*, Table X, p. 120) quotes the moment as "9 April '6747," or 16^h 11^m 34^s OS. Thus the difference between us and the Benares patra is only 2 minutes.

Now M. Le Gentil's account made the year begin, so says Cavendish, 3^h 24^m earlier. I suspect that "3^h" is a mistake, either by Le Gentil or Cavendish or the printers, for 2^h. For as a fact according to the *Ārya-Siddhānta*—the authority generally used in South-India—the solar year corresponding to A.D. 1792-93 began 13^h 50^m after mean sunrise (*Table I*, *Indian Calendar*, or *Table LXI* below); or 2^h 24^m earlier than it did by the *Sārya-Siddhānta* if we accept Cavendish's figure for the latter as 16^h 14^m.

Cavendish proceeds to describe the divisions of the year solar and lunar, the tithi, the lunar months, and their intercalations; and he notes a difference of practice between Benares and Nadiya. As to the former he writes:—"The civil day begins at sunrise The civil year is luni-solar, consisting of 12 lunar months with an intercalary month inserted between them occasionally. It [the luni-solar year] begins the day after the new moon next before the beginning of the solar year Moreover, in the years which have an intercalary month, this [intercalary] month begins at the day after the new moon; but notwithstanding this the ordinary civil month begins at the day after the full moon. To make their method more intelligible I will call the time from new moon to new moon the natural month. The civil month Visākha begins at the day after the full moon of that natural month which commences at the beginning of the civil year, or, in other words, at the day after the full moon of that natural month during which the sun enters the first Hindoo sign A consequence of this way of counting the months is that the first half of Chitra falls in one year, and the latter half in the following year In these almanacs no notice is taken of solar months which seems to shew that in the countries which use the Benares patra it is not customary to date by the solar month.

"In those parts of India which use the Nadeen patra the case is quite different. This almanac contains the names of the solar and lunar month The lunar months begin, not at the full, as in the Benares patra, but at the new moon, and are called by the name of that solar month which ends during the course of them; for example the lunar month during which the solar month Visākha ends, is called Chandra (or lunar) Visākha, so that each month begins a fort-

¹The meridian of Ujjain is 12° 38' west of Calcutta, the time-difference being actually 50^m 32^s.

night later than by the Benares *patra*. Mr. Wilkins informs me that the Hindoos of Bengal, in all their common transactions, date according to solar time . . . and use what is commonly called the Bengal era, but in the correspondence of the Brahmins, dating books, and regulating feasts and fasts they generally use the *teethē* [tithi]."

It appears therefore that the *pāramāta* system of lunar months obtained in A.D. 1792 at Benares, while at Nadiya in the same year the system was *amānta*. This should not be forgotten when dealing with the old dates of these countries.

The computation of dates earlier than A.D. 500.

It has been stated above that prior to the appearance of the *Āryabhaṭīya* or *First Ārya-Siddhānta* of Āryabhaṭa (A.D. 499), though it is known that several astronomical treatises had been composed, their leading principles and postulates have not been brought to light, and therefore that no reliable Tables can be prepared for the purpose of calculation of a date by any of them. How then are we to proceed when desirous of examining a date belonging to such an early period?

It seems useless to attempt more than an approximation for two reasons. The first is that—since it is almost certain that no detail will, if the date be genuine, be mentioned other than the year of one of the eras and the lunar month and tithi,¹—the actual day cannot be verified; and the second is that, even if it could be verified, there is no historical or other reason why any particular trouble should be taken in that direction. The information will enable us to state the year A.D. and the time of year within, probably, a month. That will surely suffice. If a number of other details are given the document must be looked on with suspicion, as before remarked.

But the following hints may be found of use to those engaged in the decipherment of such records.

If no era is mentioned all mere guessing is useless, and the period when the inscription or document was engraved or written can only be learned from the characters. Such a date must be entrusted to a skilled palaeographer.

When the year of an era is definitely stated it can be converted into the corresponding European year by aid of the notes, a-f, which follow, but with the reservation that it cannot, perhaps, be definitely stated whether the quoted year was a solar year, or a luni-solar year, and if the latter whether it began with the month Chaitra or some previous month such as Kārttika or Āśvina.

(a) *The Kaliyuga era.* It is most unlikely that the year of the Kaliyuga will be found quoted in a date earlier than A.D. 500, but should it be so it is necessary to remember that, by reason of the length of one solar year being differently estimated by different authorities, the same year may not always have borne the same Kaliyuga number. According to the *Veṅkaṭa Jyōtiṣa* and the *Paṭṅgala-Siddhānta* the solar year consisted of 366 days; the *Romaṅka* made it $365^d\ 5^h\ 55^m\ 12^s$; the *Paulīṣa* $365^d\ 6^h\ 12^m\ 12^s$; while the *Original Sārya-Siddhānta* and the other two *Paulīṣa-Siddhāntas* mentioned by Varāhamihira estimated it at $365^d\ 6^h\ 12^m\ 36^s$. Thus by the year A.D. 500 the number of the year of the Kaliyuga according to the *Jyōtiṣa* would have fallen seven years earlier than the same year calculated by the rules of Āryabhaṭa. "K.Y. 3600" by the Ārya would be K.Y. 3593 or thereabouts by the *Jyōtiṣa* rule. The same year, K.Y. 3600 began by the *Romaṅka* 42 days earlier than it did by the Ārya; by the *Paulīṣa* it began 30 hours earlier; and by the *Original Sārya* and the other two *Paulīṣas* it began 6 hours later.

(b) *The Mālava-Vikrama era.* To convert a year of this era into a year A.D., deduct 57 from the number quoted. Chaitrādi Vikrama 428 expired=A.D. 371-72. For years B.C., or

¹ Only one record is at present known to exist of earlier date than A.D. 500 which mentions more than the month and tithi. This is the Eraṅga pillar inscription of Bodhagupta, and it includes the name of a week-day; enabling Prof. Kielhorn to fix the date as 21 June A.D. 484 (*Epig. Ind.*, V, App., p. 64, No. 454).

a Vikrama year of number less than 58, refer to Table XXXVIII A, *Indian Chronography*, p. 160. In Kielhorn's List in *Epigraphia Indica*, Appendix, Vol. V,¹ there are only three records earlier than A.D. 500. The Vikrama year generally began with the month Āshādha or Kārttika.

(c) *The Śaka era.* To obtain the year A.D. add 78 to the number of the quoted year. Śaka 223 expired=A.D. 301-2. All records known to Kielhorn bearing Śaka dates earlier than A.D. 500 were found, on careful examination, to be spurious.

(d) *The Kalachuri-Chōdi era.* To obtain the year A.D. add 247 to the given number of the year. Kal. Ch. 252 expired=A.D. 499-500. Note that the *Kalachuri-Chōdi* year begins with the beginning of the lunar month Āśvina preceding the month Chaitra which marks the beginning of the Chaitrādi year. Kielhorn notes eight such records earlier than A.D. 500.

(e) *The Gupta era.* To obtain the A.D. year add 319 to the number of the year quoted. Chaitrādi Gupta 129=A.D. 448-49. Kielhorn's List contains 21 inscriptions dated in this era earlier than A.D. 500.

(f) *The Valabhī era.* This was a continuation of the Gupta era. Its years begin, not with Chaitra, but with the preceding Kārttika.

The epochs of the other eras are subsequent to A.D. 500.

For a Table of correspondence of all eras refer to Table II, Part III, *Indian Calendar*.

R. SEWELL.

¹ Published in 1898-99. Others may of course have since been discovered.

THE CYCLE OF JUPITER,

AND

THE NAMES OF THE SAMVATSARAS APPLIED TO HINDU SOLAR YEARS

(Previously published in *Epigraphia Indica*, Vol. XIII, pp. 61—103.)

Introductory.

199. In my "*Indian Chronography*" (pp. 46-65 and Tables XXVII to XXXI A) I have shown how the exact beginning and ending of a Jovian year can be ascertained, according to the various astronomical authorities in use in India, from K. Y. 3117 (A.D. 16-17) to 5133 (A.D. 2032-33). These calculations were made, as regards the motion of Jupiter, by the mean sign system, that is to say, by conceiving the length of each samvatsara as being the time occupied by the planet in passing by his mean motion through one sign, or 30° , of the Hindu zodiac; and they were made as regards the solar year by determining the number of days and decimals of a day by which each samvatsara began after apparent Mēsha-saṁkrānti¹ in each solar year. In the single case of the *Original Sūrya-Siddhānta*, however, (Tables XXX and XXX A) the computation was made with reference to the moment of mean Mēsha-saṁkrānti; for the reason that it is almost certain that during the whole period of its use the Hindu calculators worked entirely on the mean system.

200. Since the publication of the *Indian Chronography* I have examined a large number of dates of Indian inscriptions, and have come across many cases where the name of the given samvatsara does not exactly accord with the solar year with which it should be connected according to rule framed with apparent Mēsha-saṁkrānti as the guiding-point. Sometimes this may be due to mere accident; sometimes it may arise from the use of the name of the samvatsara current at the moment of the action commemorated by the record instead of that of the samvatsara current at Mēsha-saṁkrānti of the current year. But it is certain that at least up to the time of Śrīpati (about A.D. 1040) and probably for a long time afterwards the Hindu calculators based their determination of the Jovian samvatsara current at Mēsha-saṁkrānti (and, therefore, according to custom giving its name to the entire solar year) not with reference to the apparent but to the mean Mēsha-saṁkrānti; and this would often cause the solar year to be called by a different Jovian cycle-name. The late Sankara Balkrishna Dikshit hinted (*Indian Calendar*, p. 28) that possibly this practice lasted till as late as the 15th century.

201. My tables in the *Indian Chronography* were intended to enable the beginning and ending time of a samvatsara to be calculated by time measured from a known point, and since Table I of the *Indian Calendar* stated that point (apparent Mēsha-saṁkrānti) in each year it was obviously most simple to use that point. The tables were not framed to serve as a guide to the Jovian name to be correctly applied to each solar year, though that could be gathered from them with a little trouble and care.

202. It is evident, however, that we can only be secure in our acceptance of, or rejection as irregular of, an inscription-date, if, besides the tables calculated by the apparent Mēsha-saṁkrānti, we have others calculated by the mean Mēsha-saṁkrānti; and furthermore have at hand a table containing the Jovian cycle-name properly (i.e. by Hindu rule) connected with each solar year with reference to both apparent and mean Mēsha-saṁkrānti, and by all the Hindu Siddhāntas, i.e. such a table as will shew at a glance whether a cycle-name is properly applicable to a particular solar year by any system or by any known Hindu authority. This then is the work partly done in the present paper.

¹ The Mēsha-saṁkrānti point marks the first moment, or beginning, of each solar year.

203. Before explaining the method of preparation and the use of the tables which follow a few remarks may not be considered out of place.

204. As mentioned below, the late Mr. S. Balkrishna Dikshit expressed the opinion that the *Second Ārya-Siddhānta*, whose date is believed to be about A.D. 950, was in no part of India in use for a long time. The Siddhānta which has obtained most general acceptance, except in the south, is the *Present Śārya-Siddhānta*, which dates perhaps from about A.D. 1000, and which in parts was corrected by the author of the *Makaranda* in A.D. 1478. My table XLII (below) shews all the years in which suppressions of Jovian samvatsaras took place according to each authority. These suppressions are marked with asterisks. Now it will be apparent to anyone using that table that in this respect the results afforded by calculation from the elements of the *Second Ārya-Siddhānta* are much nearer to those of the *Present Śārya-Siddhānta* with the correction (*bija*) than to results obtained by the use of any other authority. The position of Jupiter, that is, as calculated by the *Second Ārya* differed considerably from that calculated by the *Śārya-Siddhānta* until the Hindu astronomer in the 15th century introduced the correction to the latter's elements; after which the two come much closer together. If, therefore, the corrected *Śārya-Siddhānta* is really the most accurate authority, we must hold that at least in the matter of the motion of Jupiter the *Second Ārya-Siddhānta* was unworthily dealt with and received scant justice.

205. Although the *Second Ārya-Siddhānta* seems to have been in use for a very short time I was induced to continue the calculations according to its elements through the whole period of over 1,400 years embraced in the general Table XLII below, partly in order to call attention to this peculiarity.

206. In ordinary cases it would suffice, when once the moment of beginning of a samvatsara had been calculated with reference to apparent Mēsha-samkrānti, merely to add to it the time-difference or śūdhya, between apparent and mean Mēsha-samkrānti in order to arrive at the moment of its beginning with reference to mean Mēsha-samkrānti; and in ordinary cases the four decimal points given in my tables would suffice. But in order that there may be no mistake in very close cases I have worked the whole of these tables by nine places of decimals. One instance, and that a very interesting and instructive one, will shew how important it is that this should be done, especially with reference to the information afforded by Table XLII.

207. Note the year K. Y. 3710, A.D. 609-10, in which No. 1 Prabhava of a cycle began, according to the *First Ārya-Siddhānta* and as tabulated for four decimals of a day, 169-440 days after mean Mēsha-samkrānti (Table XXIX B below). We see that during that cycle 41 Plavaṅga was suppressed because it both began and ended within the limits of the solar year A.D. 649-50. Turning to the complementary Table XXIX A of the *Indian Chronography* we see that 41 Plavaṅga began in its year 169-4400 days prior to the time when No. 1 Prabhava began in its year which means that in A.D. 649 it began precisely at the moment of mean Mēsha samkrānti. Was it or was it not suppressed? Did it begin after or before that moment? If before, it was current at that moment and gave its name to the year; if later, it both began and ended within the limits of the solar year, and did not give its name to the year. Calculation by nine decimals settles the question. 1 Prabhava in A.D. 649-50 really began 169-439979088 days after mean Mēsha-samkrānti and 41 Plavaṅga began 169-439978320 days earlier than No. 1 Prabhava. So 41 Plavaṅga actually began 0-00000768^d or -066 of a second after the moment of mean Mēsha-samkrānti. Consequently it began and ended within the solar year; it was not current at mean Mēsha-samkrānti, and on that basis did not give its name to the year; it was suppressed. But if it had begun a tenth of a second earlier it would have been current at the critical instant and the solar year would have been named after it. I am confident that the Hindu framers of pañchāṅgs would have insisted on the year A.D. 649-50

being named after 40 Parābhava even though that saṁvatsara expired less than a tenth of a second after the beginning of the year and 41 Plavaṅga was current from that instant till shortly before its close. The rule was strict as to the naming of the year according to *actual currency* at *Mēsha-saṁkrānti*, and it would have been adhered to.

208. We have yet to learn, and our knowledge can only come from careful and painstaking research and study of a large number of inscription-dates, how far the practice of naming a *solar* year after a Jovian saṁvatsara was extended to the *luni-solar* year in those parts of India where such reckoning was used, and when such extension took place. In the *Indian Calendar* (§ 57, p. 33) it was noted that evidence exists to shew that such a practice was followed, at least for a time in some tracts; and the system adopted would doubtless be similar to that obtaining in the case of the solar year, but applied to the luni-solar year; that is to say, the year would be called after the name of the saṁvatsara current at the moment of beginning of the luni-solar year, or at the exact moment when, at the time of the new moon at the end of the lunar month Phālguna, the longitude of the moon's centre coincided with that of the sun. This moment always takes place earlier than the moment of the solar Mēsha-saṁkrānti, and of course the Jovian name thus given to the luni-solar year might be one different from that given to the solar year with which it was mostly connected. Careful calculation as to the arc travelled by Jupiter between the moment of beginnings of the luni-solar and solar year would have to be made by the framers of luni-solar pañchāṅgs for each year separately, in order to find the appropriate saṁvatsara whose name the luni-solar year was to bear. This cannot be determined by any general table. In such a system no expunction of a saṁvatsara can take place except in a luni-solar year which has an intercalary month, since the luni-solar common year is in length roughly seven days less than the saṁvatsara.

209. I begin Table XLII from the year A.D. 490 when a cycle began, and not from an earlier date, because at present the earliest certain date yet found in India which contains the saṁvatsara-name of a year belongs to the 8th century A.D. Scholars are not quite clear about the Chalukya inscription of A.D. 602 (see *Indian Chronography*, p. 3). It seems useless to begin from an earlier date.

210. The present Tables XXVII B to XXXI E supplement the work of Tables XXVII to XXXI A published in *Indian Chronography*, and enable the beginning and ending time of a Jovian saṁvatsara to be ascertained by any of the principal Indian Siddhāntas, when calculation is made on the basis of *mean* Mēsha-saṁkrānti.

211. The present Table XXVII B follows the *Present Sārya-Siddhānta* without the *bīja* (or correction introduced in A.D. 1478) on the basis of *mean* Mēsha-saṁkrānti, Table XXVII of *Indian Chronography* being calculated by *apparent* Mēsha-saṁkrānti; and Table XXVII B is to be used with Table XXVII A just as is Table XXVII. The rule is given in § 146, p. 51, and examples in § 147, and (pp. 117-120) "Examples" 48 to 52.

The present Table XXVIII B is calculated for *mean* Mēsha-saṁkrānti according to the *Present Sārya-Siddhānta* with the *bīja*, and is to be used with Table XXVIII A, *Indian Chronography*, just as is Table XXVIII in that work for *apparent* Mēsha-saṁkrānti.

Similarly the present Table XXIX B is for *mean* Mēsha-saṁkrānti by the *First Arya-Siddhānta* or *Āryabhaṭṭiya*, and is to be used with Table XXIX A, *Indian Chronography*.

And the present Table XXXI B is for *mean* Mēsha-saṁkrānti by the *Brahma-Siddhānta* and the *Siddhānta-Śiromani*, and is to be used with Table XXXI A, *Indian Chronography*.

Explanation is fully given in *Indian Chronography* (pp. 52 to 62), and the work is shewn in Examples 53 to 60.

The present Tables XXXI C, D and E are similarly prepared according to the *Second Ārya-Siddhānta*, C for apparent, E for mean Mēsha-samkrānti, D being common to both.

212. Table XLII shows at a glance (the numbers in columns 3 to 13 referring to the list at the right side) for every year from A.D. 490-91 to 1915-16 what Jovian name would be given to each solar year according to the Hindu rule of naming the year by the samvatsara actually current at Mēsha-samkrānti; and this by all the authorities, and both by apparent and mean Mēsha-samkrānti. It will be found very useful in testing the accuracy of dates given in inscriptions found in tracts which, as in the north, carried on from year to year the practice of naming the year after the actual astronomical position of Jupiter.

213. Thus, to give an example, suppose we have a date given in a record in the year K. Y. 4606 or Saka 1427 expired (=A.D. 1505-6). Table XLII shews us at a glance that that solar year was called "Aṅgiras" according to the *Sūrya-Siddhānta without the bija* whether on a basis of apparent or mean Mēsha-samkrānti, by the *Sūrya-Siddhānta with the bija* also on either base, and (if they had been in use) also by the *Original Sūrya* on a mean base, and by the *Second Ārya-Siddhānta* on either base; whereas according to the *First Ārya-Siddhānta* on either base, or according to the *Brahma-Siddhānta* and *Siddhānta-Śirōmaṇi* on either base the name of the year was "Srimukha."

CYCLE OF JUPITER. ELEMENTS ON BASIS OF MEAN MĒSHA-SAMKRĀNTI.

Table XXVII B. By the *Sūrya-Siddhānta without the bija*.

214. [Calculation on the basis of apparent Mēsha-samkrānti is fully explained in *Indian Chronography*, pp. 49-51.] At the epoch of the Kaliyuga, or in K. Y. 0 expired, B.C. 3102-1, the samvatsara 26 Nandana ended and 27 Vijaya began exactly at the moment of mean Mēsha-samkrānti, Jupiter being then assumed to be precisely in long. 0°. Since Vijaya ended before the end of the solar year it was suppressed, and did not give its name to any year. From the end of 26 Nandana 34 samvatsaras passed before the moment of beginning of 1 Prabhava of the next cycle. Using the letters of the List of elements of this Siddhānta on p. 49, *Indian Chronography*,¹ we calculate the interval between the end of 26 Nandana and the beginning of 1 Prabhava by the formula $E - (F \times 34)$. $(E) 365 \cdot 258756481$ days $-(F \times 34) 143 \cdot 889205368$ days $= 221 \cdot 369551113$ days. This is the time after mean Mēsha-samkrānti of K. Y. 33, B.C. 3069-8, when 1 Prabhava began. Between this 1 Prabhava and the 1 Prabhava of K. Y. 3117 there were exactly 52 whole samvatsara cycles. $I \times 52 = 5759 \cdot 504726772$ days. $E \times 16 = 5844 \cdot 140103703$ days. (This is a multiple of the length in days of one solar year.) Deduct the latter from the former, and add $221 \cdot 369551113$ days (the beginning time of 1 Prabhava of K. Y. 33), and the result is $166 \cdot 734174181$ days. At this distance of time, therefore, after mean Mēsha-samkrānti No. 1 Prabhava began in K. Y. 3117, A.D. 16-17. Calculation for the following cycles follows in order by adding for each the element "I."

¹ "D" is the length of one samvatsara of Jupiter.

"E" is the length of the sidereal solar year.

"F" = $E - D$, or the difference between E and D.

"G" = this difference for an entire cycle, or, $F \times 60$.

"H" = $E - H$, or additive difference for beginnings of successive cycles.

Table XXVIII B. By the *Surya-Siddhānta* with the *bija*.

215. [Calculation on the basis of apparent *Mēsha-saṁkrānti* is explained in *Indian Chronography*, pp. 52-53.] Although the *bija*, or correction, was not introduced till A.D. 1478 still, since it involved the change in some respects of the elements of the *Siddhānta* (compare the *Lists*, pp. 49 and 52, *Indian Chronography*), calculation had to be made afresh from the epoch of the *Kaliyuga*, K. Y. 0 expired. At the moment of mean *Mēsha-saṁkrānti* in that year 26 *Nandana* ended and 27 *Vijaya* began. *Vijaya* was suppressed (*kshaya*) in that year. Using the elements at the top of p. 53, *Ind. Chron.*, we find $E - (F \times 34) = 221\text{--}639\text{--}172313$ days. This is the time measured from mean *Mēsha-saṁkrānti*, when 1 *Prabhava* began in K. Y. 33, B.C. 3069-68. From the beginning of this *Prabhava* to the beginning of the 1 *Prabhava* in K. Y. 4540, A.D. 1439-40, there were exactly 76 cycles of *saṁvatsaras*. " I " \times 76 = 8497-744791036 days. $E \times 23$ (a multiple of the solar year length) = 8400-951399063 days. Deduct the latter from the former and add 221-639172313 days as above, and the result is 318-432564286 days. In K. Y. 4540, A.D. 1439-40, therefore, 1 *Prabhava* began 318-4326 days after mean *Mēsha-saṁkrānti*. For the beginning-moment of each successive cycle we add the element " I ," or 111-812431461 days.

Table XXIX B. By the *First Ārya-Siddhānta* or *Āryabhaṭīya*.

216. [For method of calculation on the basis of apparent *Mēsha-saṁkrānti* see *Indian Chronography*, pp. 53-55.] At the epoch of the *Kaliyuga* 26 *Nandana* is assumed to have ended, and 27 *Vijaya* to have begun, precisely at the moment of mean *Mēsha-saṁkrānti*. The year was K. Y. 0, A.D. 3102-1. *Vijaya* was suppressed. We use the same formula as before, viz. $E - (F \times 34)$, to find the number of days by which 1 *Prabhava* began after mean *Mēsha-saṁkrānti* in K. Y. 33. $E = 365\text{--}258680555$ days; $F \times 34 = 144\text{--}023981572$ days. Result 221-234698983 days. There were exactly 52 cycles between this *Prabhava* and the *Prabhava* which began in K. Y. 3117, A.D. 16-17. We therefore add the above result to (" I " \times 52) and deduct a multiple of the solar-year length, i.e. ($E \times 16$). (" I " \times 52) = 5777-133079900. Adding for the beginning of *Prabhava* 221-234698983 we have 5995-367778883. Deduct ($E \times 16$) or 5844-138888880, and the remainder is 154-228890003. This is the number of days by which 1 *Prabhava* began after mean *Mēsha-saṁkrānti* in K. Y. 3117, A.D. 16. The calculation begins regularly from that figure, adding the value of " I " for each cycle.

Table XXXI B. By the *Brahma-Siddhānta* and *Siddhānta-Śiroṃmukhi*.

217. [For method of calculation on the basis of apparent *Mēsha-saṁkrānti* see *Indian Chronography*, pp. 58-62.] It has already been determined (see *Indian Chronography*, p. 59, § 165) that in K. Y. 0 Jupiter reached long. 0° 6' 49836 days after mean *Mēsha-saṁkrānti*. At that moment 27 *Vijaya* began and 26 *Nandana* ended. In the following year, K. Y. 1 expired, 28 *Jaya* began (" F " =) 4-2384-0044 days earlier in the year than 27 *Vijaya*. Hence in that year 28 *Jaya* began 2-259929956 days after mean *Mēsha-saṁkrānti*, and as it ended about 361 days later (" D ") it ended before the end of the solar year and was suppressed not giving its name to any year. To find the beginning-moment of the No. 1 *Prabhava*

of the next cycle we add as before $E - (F \times 34)$ to the ending-moment of 16 Nandana as found above.

$$\begin{array}{rcl}
 E & = & 365 \cdot 258437500 \quad \text{days} \\
 (F \times 34) & = & -144 \cdot 106621496 \quad \text{do.} \\
 \hline
 & & 221 \cdot 151816004 \quad \text{do.} \\
 + & & 6 \cdot 498360000 \quad \text{do.} \\
 \hline
 & & 227 \cdot 650176004 \quad \text{do.}
 \end{array}$$

Therefore 1 Prabhava began 227·650176004 days after mean Mēsha-saṅkrānti in the year K. Y. 33, B.C. 3069-68.

Add this to "I" \times 52, and deduct a multiple of the solar year length, or $E \times 16$, and we have the datum for K. Y. 3117, A.D. 16-17.

$$\begin{array}{rcl}
 \text{"I"} \times 52 & & 5769 \cdot 537012720 \\
 + & & 227 \cdot 650176004 \\
 \hline
 & & 5997 \cdot 187188724 \\
 E \times 16 & = & -5844 \cdot 135000000 \\
 \hline
 & & 153 \cdot 052188724
 \end{array}$$

This last is the number of days by which 1 Prabhava began in that year after mean Mēsha-saṅkrānti.

From that moment we proceed regularly as before, adding the cycle difference "I" for each cycle.

CALCULATION BY THE SECOND ĀRYA-SIDDHĀNTA ON BASIS OF (i) APPARENT, (ii) MEAN MĒSHA-SANĀKRĀNTI.

218. (*Cancelled.*)

219. The date of the *Second or Mahā Ārya-Siddhānta* is believed to be about A.D. 950; and according to the opinion of the late Mr. Sankara Balkrishna Dikshit, it does not seem to have been anywhere in use for a long time. It was, however, known to Bhāskarāchārya in A.D. 1150 and such being the case I have considered it advisable to prepare the Tables for the whole period covered by the other tables referred to. Though this is certainly useless for later years it is dangerous to draw a line and it is best to be on the safe side, as we know as yet neither the tract where this Siddhānta was used nor the date when its use ceased. As regards the saṁvatsaras of Jupiter this Siddhānta could never have been received as an authority in the South of India because there the astronomically calculated succession of saṁvatsaras, in the matter of the application of their names to the solar years, was neglected after the year A.D. 906; every year being afterwards serially connected with the name of a saṁvatsara without regard to any suppression. The presumption is that the use of the *Second Ārya-Siddhānta* was confined to the north, or at least to those tracts where suppressions of saṁvatsaras were attended to.

Table XXXIC. Apparent *Mēsha-saṁkrānti* as basis.

220. The process of calculation for Table XXXIC is as follows:—

According to the *Second Arya Siddhānta* the position of Jupiter at the moment of mean *Mēsha-saṁkrānti* in K. Y. 0 expired or 1 current, that is to say at the epoch of the Kaliyuga era or the moment of mean sunrise on Friday, 18, B. C. 3102, was $357^{\circ}7'12''$ (*Indian Chronography*, p. 63). Jupiter did not reach the point 0° till he had travelled $2^{\circ}52'48''$ of arc. Calculating by his mean motion this journey occupied 34d. 15 h. 45 m. or 34·65624537 days (Table XXXIV). He reached long. 0° therefore at that length of time after the moment of mean *Mēsha-saṁkrānti*, and when he reached it the *saṁvatsara* 27 Vijaya began. The time-interval between mean and apparent *Mēsha-saṁkrānti* in K. Y. 0, i.e. the interval which we call the "sādhya", was determined by Dr. Schram (*op. cit.* p. 16) as 2·171973 days or 2·171972 days after calculation by two separate methods, the results shewing a minute difference of 0·09 of a second. I have halved this difference, and calculated with a *sādhya* of 2·1719725 days, or 2d. 4h. 7m. 38·424s. Jupiter therefore reached long. 0° , 26 Nandana ended, and 27 Vijaya began, (34·65624537 + 2·1719725 days =) 36·82821787 days, or (34d. 15h. 45m. + 2d. 4h. 7m. 38·424s. =) 36d. 19h. 52m. 38·424s. after apparent *Mēsha-saṁkrānti* in K. Y. 0 expired.

221. Next has to be ascertained the moment of beginning of the first *saṁvatsara* "1 Prabhava" of the next 60-*saṁvatsara* cycle. This occurred after the expiration of exactly 34 *saṁvatsaras* counting from the end of 26 Nandana. The length of the solar year is ($E1 =$) 365·258690278 days. The annual difference between the lengths of the solar year and *saṁvatsara* is ($F =$) 4·231719473 days. This last multiplied by 34 is 143·878462082 days $E - (F \times 34) =$ 221·380228196 days. This, added to the number of days by which 26 Nandana ended after apparent *Mēsha-saṁkrānti* (*viz.* 36·82821787 days, as found above, *para.* 220) gives us 258·208446066 days. 1 Prabhava therefore began 258·208446066 days after apparent *Mēsha-saṁkrānti* in the year K. Y. 33 expired or B. C. 3069·68. The reason why the solar year was not K. Y. 34 expired is because in K. Y. 8 expired, B. C. 3094·93, the *saṁvatsara* 35 Plava was expunged.

222. To arrive at the exact beginning of the "1 Prabhava" which began in A.D. 16·71, between which year and the year K. Y. 33 expired or B.C. 3069·68 there were exactly 52 complete cycles of *saṁvatsaras*, element "I" must be first calculated. This is the difference in the beginning-time of the *saṁvatsara* No. 1 Prabhava at the beginning of successive 60-year cycles. The annual difference being ($F =$) 4·231719473 days, $F \times 60$ is 253·903168380 days. Deduct this from the year-length "E" given above, and the remainder is the value of "I", *viz.* 111·355521898 days. 52 of these cycle-differences ("I" \times 52) amount to 5790·487138696 days. To this must be added the time by which the 1 Prabhava began after *Mēsha-saṁkrānti* in K. Y. 33 expired, or B.C. 3069·68. This was found to be 258·208446066 days. The total is 6048·695584762 days. Deduct from this a multiple of the solar year-length E, *viz.* ($E \times 16 =$) 5844·139044448, and the remainder is 204·556540314 days.

223. No. 1 Prabhava therefore began in A.D. 16·17 or K. Y. 3117 expired 204·556540314 days after apparent *Mēsha-saṁkrānti*. From this point the calculation for Table XXXIC is carried regularly forward cycle by cycle, the expunged, or *kshaya*, *saṁvatsaras* being duly noted, with the years in which the expunction took place.

224. It has been mentioned that, in the earliest of the cycles which have been dealt with above, the *saṁvatsara* 35 Plava was expunged. This occurred in the year K. Y. 8 expired, B.C. 3094·3. From 27 Vijaya to 35 Plava is 8 *saṁvatsaras*. The annual difference "F"

¹ See the list of elements of this *Siddhānta* on p. 63, *Indian Chronography*, and footnote above p. 4.

multiplied by 8 is 33-853755784 days. Vijaya was found to have begun 36-828217870 days after apparent Mēsha-samkrānti in its solar year. Deducting from this 33-853755784 days, viz.: the 8-years collective difference, the remainder is 2-974462086 days. 35 Plava, therefore, began at that length of time after apparent Mēsha-samkrānti in K. Y. 8 expired or B.C. 3069-8; and since the length of a saṁvatsara is only 361 odd days, it is evident that Plava ended before the expiry of the 365½ days of the solar year. It has been necessary to work out this point since, if there had been no expunction in the cycle in question, the year connected with 1 Prabhava of the following cycle would not have been, as it is, K. Y. 33 but K. Y. 34 expired.

[For the sake of conformity with the similar Tables for the other Siddhāntas (Tables XXVII to XXXI A, *Indian Chronography*) I have calculated the sōdhya as it has been determined by Dr. Schram for K. Y. 0, viz.: 2-1719725 days, leaving it to workers to make the very slight alteration necessary (if a very close case should be discovered) to get perfect accuracy for the century concerned. Dr. Schram's results will be found in *Indian Chronography*, p. 16. The sōdhya in K. Y. 0 was 2-171972 days, in K. Y. 3000 was 2-172707 days, in K. Y. 4000 was 2-172952 days and in K. Y. 5000 was 2-173197 days. Having found by my Tables the beginning-time of a saṁvatsara, if greater accuracy is necessary, deduct from the result after K. Y. 3000, fairly in proportion to the 2000 years' interval, an amount varying from 0-0007 to 0-0012, - from 1m. 2s. to 1m. 46s. This last is the greatest possible difference.]

Table XXXI D.

Table XXXI D is to be used, for *Second Ārya-Siddhānta* computation just as Table XXVII A (*Indian Chronography*) is used for computation by the *Sūrya-Siddhānta* without the lāpa.

Table XXXI E. Mean Mēsha-samkrānti as basis.

225. The method of work for finding the beginning of the saṁvatsara 1 Prabhava in the year A.D. 16-17, K. Y. 3117 expired, on the basis of reference to mean instead of to apparent Mēsha-samkrānti, could be explained in exactly the same way as has been already done in the latter case; but it is unnecessary to go into such full details a second time. It suffices to say for a beginning, that with reference to mean Mēsha-samkrānti in the year K. Y. 0 expired or at the epoch of the Kaliyuga era it has been shewn that the saṁvatsara 26 Nandana ended, and 27 Vijaya began 34-656245370 days after that moment. We work from this point. 8 saṁvatsaras later 35 Plava began ($P \times 8$) 33-853755784 days earlier than did 27 Vijaya. Deducting the latter from the former figure we find that in the solar year K. Y. 8 expired, B.C. 3069-8 35 Plava began 0-802489586 days after mean Mēsha-samkrānti, and therefore ended before the end of the solar year. It was a kshaya, or suppressed, saṁvatsara. Hence, as before so here, the 1 Prabhava of the next cycle began in K. Y. 33 and not in K. Y. 34 expired.

226. No. 27 Vijaya began in K. Y. 0 expired 34-656245370 days after mean Mēsha-samkrānti. "E"—($P \times 34$)=221-380228196 days. (§221 above.)

Add these. Then 1 Prabhava in K. Y. 33, B.C. 3069-8, began 256-036473566 days after mean Mēsha-samkrānti. Add this to "I" $\times 52$ which=5790-487138696. Result 6046-523612262 days. Deduct "E" $\times 16$ (a multiple of the solar year length) or 5844-139044448 days and we arrive at 202-384567814 days, which is the number of days by which 1 Prabhava of the cycle began after mean Mēsha-samkrānti in K. Y. 3117, A.D. 16-17.

This is tabulated as 202-3846 days, and so in succession.

Time-corrections.

227. Calculation by Tables XXXI C and D, or E and D will enable us to ascertain the moment of beginning and ending of any saivatsara by the *Second Ārya-Siddhānta* with reference to any Mēsha-saṁkrānti moment, true or mean; but, as in the case of the *Original Sārya-Siddhānta*, *Brahma-Siddhānta* and *Siddhānta-Śirōmaṇi*, we must, if we use the *Indian Calendar Table I*, for giving us the time of occurrence of Mēsha-saṁkrānti each year (cols. 13 to 17 for the *First Ārya-Siddhānta*) apply a correction in order to get at the exact time of Mēsha-saṁkrānti by the *Second Ārya-Siddhānta* because the length of the year fixed by the *First Ārya* differed slightly from that fixed by the *Second Ārya-Siddhānta*. The two started from the same point, viz.: the sunrise epoch of the Kaliyuga, or mean sunrise on Feb. 18 B.C. 3.02, but according to the *Second Ārya* the year is 0.84s. longer than the *First Ārya* year (*Ind. Chronography*, p. 158, col. 3). Hence the following Table must be used:—

TABLE A A.

DIFFERENCE BETWEEN THE MOMENTS OF MEAN MĒSHA-SAMKRĀNTI AS CALCULATED BY (1) THE FIRST ĀRYA-SIDDHĀNTA, (2) THE SECOND ĀRYA-SIDDHĀNTA, THE TWO HAVING BEEN TOGETHER IN K. Y. 0, B.C. 3102.

Having found from Table I, cols. 13 to 17, etc. [by adding the fixed śodhya (see §§ 206, 228) to the apparent Mēsha-saṁkrānti] the moment of mean Mēsha-saṁkrānti by the *First Ārya-Siddhānta*, add the time difference given in this Table for every expired year of the K. Y. in order to obtain the same by the *Second Ārya-Siddhānta*.

| Difference in years. | Time difference. | | | Difference in years. | Time difference. | | | Difference in years. | Time difference. | | | Difference in years. | Time difference. | | |
|----------------------|------------------|----|------|----------------------|------------------|----|-------|----------------------|------------------|----|----|----------------------|------------------|----|----|
| 1 | 2 | | | 1 | 2 | | | 1 | 2 | | | 1 | 2 | | |
| | H. | M. | S. | | H. | M. | S. | | H. | M. | S. | | H. | M. | S. |
| 1 | — | — | 0.84 | 10 | — | — | 8.40 | 100 | — | 1 | 24 | 1000 | — | 14 | 0 |
| 2 | — | — | 1.68 | 20 | — | — | 16.80 | 200 | — | 2 | 48 | 2000 | — | 28 | 0 |
| 3 | — | — | 2.52 | 30 | — | — | 25.20 | 300 | — | 4 | 12 | 3000 | — | 42 | 0 |
| 4 | — | — | 3.36 | 40 | — | — | 33.60 | 400 | — | 5 | 36 | 4000 | — | 56 | 0 |
| 5 | — | — | 4.20 | 50 | — | — | 42.00 | 500 | — | 7 | 0 | 5000 | 1 | 10 | 0 |
| 6 | — | — | 5.04 | 60 | — | — | 50.40 | 600 | — | 8 | 24 | | | | |
| 7 | — | — | 5.88 | 70 | — | — | 58.80 | 700 | — | 9 | 48 | | | | |
| 8 | — | — | 6.72 | 80 | — | 1 | 7.20 | 800 | — | 11 | 12 | | | | |
| 9 | — | — | 7.56 | 90 | — | 1 | 15.60 | 900 | — | 12 | 36 | | | | |

N.B.—To obtain exact time of apparent Mēsha-saṁkrānti by the *First Ārya-Siddhānta* add 30s. to the time given in Table I, col. 17 of the *Indian Calendar* in years A. D. whose number is odd; but not in those whose number is even. See *Indian Chronography "Hints for workers,"* No. 20, p. 79.

228. Again, to fix the exact moment of apparent Mēsha-saṁkrānti by the *Second Ārya-Siddhānta* we have to note that according to it the śodhya, or time-difference between mean and apparent Mēsha-saṁkrāntis varies slightly year by year; whereas the śodhya by the *First Ārya-Siddhānta* is a constant; so that we must for absolute accuracy in *Second Ārya-Siddhānta* time, take note of this varying difference.

Dr. Schram has fixed its value for us (see *Indian Chronography*, 139 D, p. 16) at different millenniums thus—

TABLE B B.
SECOND ĀRYA-SIDDHĀNTA SŪDHYĀ.

| K. Y. expired. | Christian year. | Exact value of śodhya as fixed by Dr. Schram. | | | |
|-------------------|--------------------|--|----|----|-------|
| | | d. | h. | m. | s. |
| 3000 | B.C. 103-02 | 2 | 4 | 8 | 41-88 |
| 4000 | A.D. 899-900 | 2 | 4 | 9 | 3-05 |
| 5000 | A.D. 1899-1900 | 2 | 4 | 9 | 24-22 |

It will be seen that for all ordinary purposes it will suffice to use a constant 2d. 4h. 9m.; but for very close work take the śodhya-value at K. Y. 3601, A. D. 500, as being 2d. 4h. 8m. 54-582s. and add for every succeeding 100 years 2-117s. and for 1000 years 21-168s.

RULE FOR WORK AND EXAMPLE.

229. All work formerly necessary for the purpose of ascertaining which Jovian saṁvatsara began in the course of any given year according to any of the principal Siddhāntas, and whether calculated by apparent or mean Mēsha-saṁkrānti, is now obviated by the information given in Table XLIII below, which solves the question at a glance. It shows the saṁvatsara current at every Mēsha-saṁkrānti, and we therefore know that the next saṁvatsara of the cycle began during the year. When there is an asterisk shown it means that this latter saṁvatsara both began and ended during the solar year, so that the next again also began during that year and was current at Mēsha-saṁkrānti of next year.

230. But we sometimes desire to know the time of beginning and ending of a saṁvatsara in order to ascertain whether it was current at the time of the event or action chronicled in an inscription.

231. This time is precisely the same whether we calculate from mean or from apparent Mēsha-saṁkrānti; and as the time of these is clearly given in the general working Tables LX, LXI, LXXVI, LXXXII, XC, and as, for the *Second Ārya-Siddhānta* it can be gathered from cols. 13 to 17 or 17a of the *Indian Calendar*, it is easiest to use that information as basis of work. Find this required time, therefore, according to the *Sūrya-Siddhānta* (with or without the *bija*), the *First Ārya* or *Āryabhaṭṭiya*, the *Original Sūrya*, and *Brahma-Siddhāntas*, and the *Siddhānta-Śirōmaṇi* in the manner described in §§ 146, 147, 153, 158, 162 or 167 A and examples 48 to 59 A of *Indian Chronography*, or from the general working Tables below.

232. The work according to the *Second Ārya-Siddhānta* is precisely similar, but we have to use the Tables A A and B B in the text above instead of any of the other Tables in the text of *Indian Chronography*. I proceed with an example.

233. We want to know what saṁvatsara began in K. Y. 4380 expired, A. D. 1279-80 according to the *Second Ārya-Siddhānta*. The answer is given by Table XLII below. 18 Tāraka was current both at apparent and mean Mēsha-saṁkrānti, and therefore in either case gave its name to the solar year; 19 Pārthiva began in the course of the year.

When did Pārthiva begin? and when did it end?

For rough work the following will always suffice, whether we have been calculating by mean or apparent Mēsha-saṁkrānti, the time being the same by both. We will work by

apparent Mēsha-saṁkrānti. Table XXXI C below shews that in the cycle concerned 1 Prabhava began 351 days after Mēsha-saṁkrānti, and Table XXXI D shews that in its year 19 Pārthiva began 76 days earlier than did 1 Prabhava; so 19 Pārthiva began $(351-76)$ 275 days after apparent Mēsha-saṁkrānti in the given year. We find the time of apparent Mēsha-saṁkrānti in that year from the *Indian Calendar Table I* or *Table LXI* below, i.e. according to the *First Ārya-Siddhānta*, on March 25 on day 84 (*Table IX Ind. Cal. or LXIX below*) at about 21 hours after mean sunrise. Call this day 85.¹ Table AA shews the time-difference between the two Siddhāntas, for the 4380 years since K. Y. 0, as being about one hour. This may be ignored. 19 Pārthiva began 275 days later. $275+85=360$, i.e. (*Table IX, Ind. Cal. or LXIX below*) 19 Pārthiva began on December 26, A.D. 1279. This suffices for a rough solution of the problem.

For close work we must calculate more carefully. I give here the closest possible according to our available Tables, following the course prescribed above. For the beginning of 19 Pārthiva (*Table XXXI C and D below*) we have $351-4704-76-1710=275-2994=(\text{Table XXXVI, Ind. Chron.})$ 275d. 7h. 11m. 8.16s. after apparent Mēsha-saṁkrānti.

Apparent Mēsha-saṁkrānti by the *First Ārya-Siddhānta* (*Table LXI below*) was on day 84 at 20h. 57m. 30s. after mean sunrise.

The difference in the śodhya interval between mean and apparent Mēsha-saṁkrānti has to be taken into account. The *First Ārya-Siddhānta* fixed this interval as always 2d. 3h. 32m. 30s. But according to the *Second Ārya* it varies slightly. (*See above, Table BB, § 228, and accompanying remarks.*) The given K. Y. year is 4380. In K. Y. 4000 it was 2d. 4h. 9m. 3.05s. Add for (say) 400 years 8.47s., at the rate of 2.117s. per 100 years, and we have the śodhya in the given year by the *Second Ārya-Siddhānta* as 2d. 4h. 9m. 11.52s.

The time-difference between the two authorities (*Table AA above, § 227*) must also be ascertained. This is, for 4000 years, 56m.; for 300 years, 4m. 12s.; for 80 years, 1m. 7.20s.; total 1h. 1m. 19.20s.

Now we make our calculation.

| | d. | h. | m. | s. |
|--|-----|-----|----|----------|
| <i>First Ārya-Siddhānta</i> apparent Mēsha-saṁkrānti | ... | 84 | 20 | 57 30 |
| <i>First Ārya-Siddhānta</i> śodhya | ... | 2 | 3 | 32 30 |
| <i>First Ārya</i> mean Mēsha-saṁkrānti | ... | 87 | 9 | 30 0 |
| Time-difference between <i>First</i> and <i>Second Ārya-Siddhānta</i> in K. Y. 4380 | ... | 1 | 1 | 19-20 |
| <i>Second Ārya-Siddhānta</i> mean Mēsha-saṁkrānti | ... | 87 | 1 | 31 19-20 |
| <i>Second Ārya-Siddhānta</i> śodhya | ... | -2 | 4 | 9 11-52 |
| Apparent Mēsha-saṁkrānti by <i>Second Ārya-Siddhānta</i> | ... | 84 | 21 | 22 7-68 |
| 19 Pārthiva began after this | ... | 275 | 7 | 11 8-16 |
| Time of beginning of 19 Pārthiva by the <i>Second Ārya-Siddhānta</i> | ... | 360 | 4 | 33 15-84 |

360d.=(*Table IX, Indian Calendar, or LXIX below*) December 26.

We have found therefore that 19 Pārthiva according to the *Second Ārya-Siddhānta*, whether based on apparent or mean Mēsha-saṁkrānti (§ 231 above) began at 4h. 33m. 15.84s. after mean sunrise on December 26, A.D. 1279.

¹ To suit, that is, the European name of the day, which begins six hours before mean sunrise.

TABLE XXVII B.

THE SIXTY-SAMVATSARA CYCLE OF JEFFITER.

Mean-sign system by the SŪRYA-SIDDHĀNTA WITHOUT THE BIJA, calculated with reference to mean Mēsha-samkrānti.

(For all India up to A.D. 906, and for the northern portion alone after and inclusive of that date.)

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kshaya (expunged) samvatsaras. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kshaya (expunged) samvatsaras. |
|---------------------------------------|---------------------|---|--------------------------------------|--|------------------------|---|--------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (0) | B.C. (3102-01) | ... | 27 Vijaya. | (4009) | A.D. (908-09) | ... | 3 Śukla. |
| 33 | 3069-8 | 221-3696 | | 4066 | 965-66 | 121-8264 | |
| | A.D. | | | (4094) | (993-94) | ... | 29 Manmatha. |
| 3117 | 16-17 | 166-7342 | | 4125 | 1024-25 | 233-1631 | |
| (3156) | (55-56) | ... | 40 Parābhava. | (4180) | (1079-80) | ... | 56 Dundubhi. |
| 3176 | 75-76 | 278-9708 | | 4184 | 1083-84 | 344-4997 | |
| 3236 | 135-36 | 24-1487 | | 4244 | 1143-44 | 90-5776 | |
| (3241) | (140-41) | ... | 6 Aṅgiras. | (4265) | (1164-65) | ... | 22 Sarvadhārin. |
| 3295 | 194-95 | 135-4853 | | 4303 | 1202-03 | 201-9142 | |
| (3337) | (226-27) | ... | 33 Vikārin. | (4350) | (1249-50) | ... | 48 Ānanda. |
| 3354 | 253-54 | 246-8219 | | 4362 | 1261-62 | 313-2509 | |
| (3412) | (311-12) | ... | 59 Kródhana. | 4422 | 1321-22 | 59-3287 | |
| 3413 | 312-13 | 358-1586 | | (4436) | (1335-36) | ... | 15 Vṛisha. |
| 3473 | 372-73 | 104-2364 | | 4481 | 1380-81 | 170-6654 | |
| (3497) | (396-97) | ... | 25 Khara. | (4521) | (1420-21) | ... | 41 Plavaṅga. |
| 3532 | 431-32 | 215-5731 | | 4546 | 1439-40 | 282-0020 | |
| (3552) | (481-82) | ... | 51 Piṅgala. | (After this date Tables XXVIII B below and XXVIII A in the Indian Chronography are ordinarily to be used.) | | | |
| 3591 | 490-91 | 326-9097 | | 4600 ² | 1499-1500 ² | 28-0799 | |
| 3651 | 550-51 | 72-9876 | | (4606) | (1505-06) | ... | 7 Śrīmukha. |
| (3668) | (567-68) | ... | 18 Tāraṇa. | 4659 | 1558-59 | 139-4165 | |
| 3710 | 609-10 | 184-3442 | | (4691) | (1590-91) | ... | 33 Vikārin. |
| (3753) | (652-53) | ... | 44 Sādhāraṇa. | 4718 | 1617-18 | 250-7531 | |
| 3769 | 668-69 | 295-6608 | | (4777) | (1676-77) | ... | 60 Kshaya. |
| 3829 | 728-29 | 41-7387 | | 4777 | 1676-77 | 362-0897 | |
| (3838) | (737-38) | ... | 10 Dhātṛi. | | | | |
| 3888 | 787-88 | 153-0753 | | | | | |
| (3924) | (823-24) | ... | 37 Śobhana. | | | | |
| 3947 | 846-47 | 264-4120 | | | | | |
| 4007 ¹ | 906-07 ¹ | 19-4898 | | | | | |

¹ In Southern India the expunged of samvatsaras was neglected from, and including, the cycle beginning in A.D. 906.² About A.D. 1500 the bija (correction) was generally introduced, and the beginning moments of the cycles were recalculated from the epoch of the Kaliyuga. For years subsequent to A.D. 1500 Tables XXVIII B below and XXVIII A (Indian Chronography) should as a rule be used. But since the bija was not introduced all over India at the same time calculations for three more cycles have been here given according to the Sūrya-Siddhānta without the bija.

TABLE XXVIII B.

THE SIXTY-SĀṆVATSARA CYCLE OF JUPITER.

Mean-sign system by the SŪRYA-SIDDHĀNTA WITH THE BĪJĀ calculated with reference to
mean Mēsha-saṁkrānti.

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- saṁkrānti. | Kalya (expunged) saṁvatsaras. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- saṁkrānti. | Kalya (expunged) saṁvatsaras. |
|---------------------------------------|--------------------|---|-------------------------------------|---------------------------------------|--------------------|---|-------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 4540 | A.D. 1439-40 | 318-4326 | | | A.D. | | |
| 4600 | 1499-1500 | 64-9862 | | (4871) | (1770-71) | ... | 35 Plava. |
| (4615) | (1514-15) | ... | 16 Chitrabhā- | 4896 | 1795-96 | 258-7896 | |
| 4659 | 1558-59 | 176-7987 | nn. | 4956 | 1855-56 | 5-3433 | 2 Vibhava. |
| (4700) | (1599-1600) | ... | 42 Kṛitaka. | (4957) | (1856-57) | ... | |
| 4718 | 1617-18 | 288-6111 | | 5015 | 1914-15 | 117-1557 | 28 Jaya. |
| 4778 | 1677-78 | 35-1648 | | (5042) | (1941-42) | ... | |
| (4786) | (1685-86) | ... | 9 Yūvan. | 5074 | 1973-74 | 228-9682 | 55 Durmati. |
| 4837 | 1736-37 | 146-9772 | | (5128) | (2027-28) | ... | |
| | | | | 5133 | 2032-33 | 340-7806 | |

TABLE XXIX B.

THE SIXTY-SAMVATSARA CYCLE OF JUPITER.

Mean-sign system by the FIRST ĀRYA-SIDDHĀNTA OR ĀRYABHAṬṬĪYA.

Calculated with reference to mean Mēsha-samkrānti.

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kalya (expunged) samvatsara. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kalya (expunged) samvatsara. |
|---------------------------------------|--------------------|---|------------------------------------|---------------------------------------|--------------------|---|------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | B.C. | | | | A.D. | | |
| (0) | (3102-01) | ... | 27 Vijaya. | 4066 | 965-66 | 105-5149 | |
| 33 | 3069-68 | 221-2347 | | (4090) | (989-90) | ... | 25 Khara. |
| | | | | 4125 | 1024-25 | 216-6136 | |
| | | | | (4176) | (1075-76) | ... | 52 Kālayukta. |
| | | | | 4184 | 1083-84 | 327-7123 | |
| 3117 | 16-17 | 154-2289 | | 4244 | 1143-44 | 73-5524 | |
| (3153) | (53-53) | ... | 37 Śobhana. | (4261) | (1160-61) | ... | 18 Tāraṇa. |
| 3176 | 75-76 | 265-3276 | | 4303 | 1202-03 | 184-6511 | |
| 3236 | 135-36 | 11-1676 | | (4346) | (1245-46) | ... | 44 Sādhārana. |
| (3238) | (137-38) | ... | 3 Śukla. | 4362 | 1261-62 | 235-7498 | |
| 3295 | 194-95 | 122-2662 | | 4422 | 1321-22 | 41-5898 | |
| (3323) | (222-23) | ... | 29 Manmatha. | (4431) | (1330-31) | ... | 10 Dhātri. |
| 3354 | 253-54 | 233-351 | | 4481 | 1380-81 | 152-6885 | |
| (3409) | (308-09) | ... | 56 Dundabhi. | (4517) | (1416-17) | ... | 37 Śobhana. |
| 3413 | 312-13 | 344-4638 | | 4540 | 1439-40 | 263-7872 | |
| 3473 | 372-73 | 90-3038 | | 4600 | 1499-1500 | 9-6273 | |
| (3494) | (393-94) | ... | 22 Sarvadhārin. | (4602) | (1501-02) | ... | 3 Śukla. |
| 3532 | 431-32 | 201-4025 | | 4659 | 1558-59 | 120-7260 | |
| (3579) | (478-79) | ... | 48 Āranda. | (4687) | (1586-87) | ... | 29 Manmatha. |
| 3591 | 490-91 | 312-5012 | | 4718 | 1617-18 | 231-8247 | |
| 3651 | 550-51 | 58-3413 | | (4772) | (1671-72) | ... | 55 Darmati. |
| (3664) | (562-64) | ... | 14 Vikrama. | 4777 | 1676-77 | 342-9234 | |
| 3710 | 609-10 | 169-4400 | | 4837 | 1736-37 | 88-7634 | |
| (3759) | (649-50) | ... | 41 Plavaṅga. | (4857) | (1756-57) | ... | 21 Sarvajit. |
| 3769 | 668-69 | 280-5387 | | 4896 | 1795-96 | 199-8622 | |
| 3829 | 728-29 | 26-3787 | | (4942) | (1841-42) | ... | 47 Pramādin. |
| (3835) | (734-35) | ... | 7 Śrīmukha. | 4955 | 1854-55 | 310-9609 | |
| 3888 | 787-88 | 137-4774 | | 5015 | 1914-15 | 56-8009 | |
| (3920) | (819-20) | ... | 33 Vikārin. | (5028) | (1927-28) | ... | 14 Vikrama. |
| 3947 | 846-47 | 248-5762 | | 5074 | 1973-74 | 167-8996 | |
| (4005) | (904-05) | ... | 59 Krodhana. | (5113) | (2012-13) | ... | 40 Parābhava. |
| 4006 | 905-06 | 359-6749 | | 5133 | 2032-33 | 278-9983 | |

TABLE XXXI B.

THE SIXTY-SAMVATSARA CYCLE OF JUPITER.

Mean-sign system by the BRAHMA-SIDDHANTA AND SIDDHANTA-SIBHMAṆI.

Calculated with reference to mean Mēsha-samkrānti.

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kahaya (expunged) samvatsara. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kahaya (expunged) samvatsara. |
|---------------------------------------|--------------------|---|-------------------------------------|---------------------------------------|--------------------|---|-------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (1) | B.C. (3101-00) | ... | 28 Jaya. | 4066 | A.D. 965-66 | 102-0022 | |
| 33 | 3069-68 | 227-6502 | | (4090) | (989-90) | ... | 25 Khara. |
| | | | | 4125 | 1024-25 | 212-9548 | |
| | A.D. | | | (4175) | (1074-75) | ... | 51 Piṅgala. |
| 3117 | 16-17 | 153-0522 | | 4184 | 1083-84 | 323-9074 | |
| (3153) | (52-53) | ... | 37 Śobhana. | 4244 | 1143-44 | 69-60-6 | |
| 3176 | 75-76 | 264-0048 | | (4260) | (1159-60) | ... | 17 Subhānu. |
| 3236 | 135-36 | 9-6990 | | 4303 | 1202-03 | 180-5543 | |
| (3298) | (137-38) | ... | 3 Śukla. | (4345) | (1244-45) | ... | 43 Saumya. |
| 3255 | 194-95 | 126-6517 | | 4362 | 1261-62 | 291-5069 | |
| (3323) | (222-23) | ... | 29 Manmatha. | 4422 | 1321-22 | 37-2011 | |
| 3354 | 253-54 | 231-0043 | | (4430) | (1329-30) | ... | 9 Yavan. |
| (3408) | (307-08) | ... | 55 Durmati. | 4481 | 1380-81 | 148-1537 | |
| 3413 | 312-13 | 342-5569 | | (4515) | (1414-15) | ... | 35 Plava. |
| 3473 | 372-73 | 88-2511 | | 4540 | 1439-40 | 259-1064 | |
| (3493) | (392-93) | ... | 21 Sarvajit. | 4600 | 1499-1500 | 4-8006 | |
| 3532 | 431-32 | 199-2038 | | (4601) | (1500-01) | ... | 2 Vibhava. |
| (3578) | (477-78) | ... | 47 Pramādin. | 4659 | 1558-59 | 115-7532 | |
| 3591 | 490-91 | 319-1564 | | (4686) | (1585-86) | ... | 28 Jaya. |
| 3651 | 550-51 | 55-8506 | | 4718 | 1617-18 | 226-7058 | |
| (3664) | (563-64) | ... | 14 Vikrama. | (4771) | (1670-71) | ... | 54 Raudra. |
| 3710 | 609-10 | 166-8032 | | 4777 | 1676-77 | 337-6585 | |
| (3749) | (648-49) | ... | 40 Parābhava. | 4837 | 1736-37 | 83-3527 | |
| 3769 | 668-69 | 277-7559 | | (4856) | (1755-56) | ... | 20 Vyaya. |
| 3829 | 728-29 | 23-4501 | | 4896 | 1795-96 | 194-3053 | |
| (3834) | (733-34) | ... | 6 Aṅgiras. | (4941) | (1840-41) | ... | 46 Paridhāvin. |
| 3888 | 787-88 | 134-4027 | | 4955 | 1854-55 | 305-2579 | |
| (3919) | (818-19) | ... | 32 Vilamba. | 5015 | 1914-15 | 50-9521 | |
| 3947 | 846-47 | 245-3553 | | (5027) | (1926-27) | ... | 13 Pramāthin. |
| (4004) | (903-04) | ... | 58 Raktāksha. | 5074 | 1972-73 | 161-9048 | |
| 4096 | 905-06 | 356-3060 | | (5112) | (2011-12) | ... | 39 Viśvāvasu. |
| | | | | 5133 | 2032-33 | 272-8574 | |

TABLE XXXI C.

THE SIXTY-SĀNTYATSARA CYCLE OF JUPITER.

Mean-sign system by the SECOND ĀRYA-SIDDHĀNTA.

Calculated with reference to apparent Māsha-samkrānti.

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after apparent Māsha- samkrānti. | Kshaya (expunged) santvatsara. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after apparent Māsha- samkrānti. | Kshaya (expunged) santvatsara. |
|---------------------------------------|--------------------|---|--------------------------------------|---------------------------------------|-----------------------|---|--------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (0) | B.C. (3102-1) | | | 4007 | A.D. 906-07 | 48-5959 | |
| (8) | (3094-3) | ... | 35 Plava. | (4018) 4066 | (917-18) 965-66 | ... | 12 Bahudhān- ya. |
| 33 | 3069-8 | 258-208446 | | (4103) 4125 | (1002-03) 1024-25 | ... | 38 Krodhin. |
| | A.D. | | | 4183 | 1084-85 | 17-4038 | |
| 3117 | 16-17 | 204-5565 | | (4189) 4244 | (1088-89) 1143-44 | ... | 5 Prajāpati. |
| (3065) | (64-65) | ... | 49 Rākshasa. | (4274) 4303 | (1173-74) 1202-03 | ... | 31 Hēmalam- ba. |
| 3176 | 73-76 | 315-9121 | | (4359) 4362 | (1258-59) 1261-62 | ... | 57 Rudhīrōd- gārīn. |
| 3236 | 135-36 | 62-0089 | 15 Vṛiṣha. | 4422 | 1321-22 | 97-5672 | |
| (3250) | (149-50) | ... | | (4445) 4481 | (1344-45) 1380-81 | ... | 24 Vikṛita. |
| 3295 | 194-95 | 173-3644 | 41 Plavaṅga. | (4530) 4540 | (1439-40) 1439-40 | ... | 50 Anala. |
| (3335) | (234-35) | ... | | 4600 | 1490-1500 | 66-3751 | |
| 3354 | 233-54 | 284-7199 | 8 Bhāva. | (4615) 4659 | (1514-15) 1558-59 | ... | 16 Chitrabhā- nu. |
| 3414 | 313-14 | 30-8168 | 34 Śarvarin. | (4700) 4718 | (1599-1600) 167-18 | ... | 42 Kīlaka. |
| (3421) | (320-21) | ... | | 4778 | 1677-78 | 35-1829 | |
| 3473 | 372-73 | 142-1723 | 60 Kshaya. | (4786) 4837 | (1685-86) 1736-37 | ... | 9 Yuvan. |
| (3506) | (405-06) | ... | | (4871) 4896 | (1770-71) 1795-96 | ... | 35 Plava. |
| 3-32 | 431-32 | 253-5278 | 26 Nandana. | 4956 | 1855-56 | 3-9908 | |
| (3591) | (490-91) | ... | | (4966) 5015 | (1855-56) 1914-15 | ... | 1 Prabhava. |
| 35-1 | 490-91 | 364-8833 | 53 Siddhār- thin. | (5042) 5074 | (1941-42) 1973-74 | ... | 28 Jaya. |
| 3651 | 550-51 | 110-9802 | 19 Pārthiva. | (5127) 5133 | (2026-27) 2032-33 | ... | 54 Raudra. |
| (3676) | (575-76) | ... | | | | | |
| 3710 | 609-10 | 222-3357 | 46 Paridhāv- in. | | | | |
| (3762) | (661-62) | ... | | | | | |
| 3769 | 668-69 | 333-6912 | | | | | |
| 3829 | 728-29 | 79-7880 | | | | | |
| (3847) | (746-47) | ... | | | | | |
| 3888 | 787-88 | 191-1436 | | | | | |
| (3963) | (832-33) | ... | | | | | |
| 3947 | 846-47 | 302-4991 | | | | | |

N.B.—This table is based on Dr. Schram's valuation of the ōdhya in K. Y. O. a mean being taken between his two results (see *Indian Chronography*, p. 16) obtained by different modes of calculation, viz. 2-171972 days and 2-171973 days. It is taken here as 2-171972 days. The greatest difference between the ōdhya in K. Y. O. and that in K. Y. 5000 amounts to no more than 1m. 46s., or 0-001225 day.

TABLE XXXI D.

THE SIXTY-SARVATSARA CYCLE OF JUPITER.

Mean-sign system by the SECOND ĀNYA-SIDDHĀNTA.

The number of days and decimals less than the day given in Table XXXI C by which each sarivatsara began after apparent Mēsha-saṁkrānti in its solar year.

| No. | Sarivatsara. | Number of days. | No. | Sarivatsara. | Number of days. |
|-----|--------------------|-----------------|-----|------------------------------------|-----------------|
| 1 | 2 | 3 | 1 | 2 | 3 |
| 1 | Prabhava | 0-000 | 32 | Vilamba | 131-1833 |
| 2 | Vibhava | 4-2317 | 33 | Vikārin | 135-4150 |
| 3 | Śukla | 8-4634 | 34 | Śārvarin | 139-6467 |
| 4 | Pramōda | 12-6952 | 35 | Plava | 143-8785 |
| 5 | Prajāpati | 16-9269 | 36 | Śubhakṛit | 148-1102 |
| 6 | Aṅgiras | 21-1586 | 37 | Śobhana | 152-3419 |
| 7 | Ścīmukha | 25-3903 | 38 | Krōdhin | 156-5736 |
| 8 | Bhāva | 29-6220 | 39 | Viśvāvasu | 160-8053 |
| 9 | Yuvan | 33-8538 | 40 | Parābhava | 165-0371 |
| 10 | Dhātṛi | 38-0855 | 41 | Plavaśga | 169-2688 |
| 11 | Isvara | 42-3172 | 42 | Kīlaka | 173-5005 |
| 12 | Bahudhānya | 46-5489 | 43 | Saṁmya | 177-7322 |
| 13 | Pramāthin | 50-7806 | 44 | Sādhārāga | 181-9639 |
| 14 | Vikrama | 55-0124 | 45 | Virōdhakṛit | 186-1957 |
| 15 | Vṛisha | 59-2441 | 46 | Paridhāvin | 190-4274 |
| 16 | Chitrabhānu | 63-4758 | 47 | Pramādin | 194-6591 |
| 17 | Subhānu | 67-7075 | 48 | Ānanda | 198-8908 |
| 18 | Tāraṇa | 71-9392 | 49 | Rākshasa | 203-1225 |
| 19 | Pārthiva | 76-1710 | 50 | Anala | 207-3543 |
| 20 | Vyaya | 80-4027 | 51 | Piṅgala | 211-5860 |
| 21 | Sarvajit | 84-6344 | 52 | Kālayukta | 215-8177 |
| 22 | Sarvadhārin | 88-8661 | 53 | Siddhārthin | 220-0494 |
| 23 | Virōdhin | 93-0978 | 54 | Raudra | 224-2811 |
| 24 | Vikṛita | 97-3295 | 55 | Durmati | 228-5129 |
| 25 | Khara | 101-5613 | 56 | Dundubhi | 232-7446 |
| 26 | Nandana | 105-7930 | 57 | Rudhīrōdgārin | 236-9763 |
| 27 | Vijaya | 110-0247 | 58 | Raktāksha | 241-2080 |
| 28 | Jaya | 114-2564 | 59 | Krōdhana | 245-4397 |
| 29 | Manmatha | 118-4881 | 60 | Kshaya | 249-6714 |
| 30 | Durmukha | 122-7199 | 1 | Prabhava (of the following cycle). | 253-9032 |
| 31 | Hāmālamba | 126-9516 | | | |

TABLE XXXI E.

THE SIXTY-SĀHVATSARA CYCLE OF JUPITER.

Mean-sign system by the SECOND ĀRYA-SIDDHĀNTA.

Calculated with reference to mean Mēsha-samkrānti.

| Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kshaya (expunged) sahvatsara. | Year of the Kaliyuga (expired). | Christian year. | Number of days by which 1 Prabhava began after mean Mēsha- samkrānti. | Kshaya (expunged) sahvatsara. |
|---------------------------------------|--------------------|---|-------------------------------------|---------------------------------------|--------------------|---|-------------------------------------|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | B.C. | | | | A.D. | | |
| (0) | (3102-1) | | | (4103) | (1002-03) | | 38 Krōdhin. |
| (8) | (3094-3) | ... | 35 Plava. | 4125 | 1024-25 | 269-1350 | |
| 33 | 3009-08 | 256-3802 | | 4185 | 1084-85 | 15-2318 | |
| | A.D. | | | (4188) | (1087-88) | ... | 4 Pramōda. |
| 3117 | 1-17 | 202-3846 | | 4244 | 1143-44 | 126-5873 | |
| (3064) | (63-64) | ... | 48 Ānanda. | (4273) | (1172-73) | ... | 30 Darmukha. |
| 3176 | 75-76 | 313-7401 | | 4303 | 1202-03 | 237-9429 | |
| 3236 | 135-36 | 50-8369 | | (4359) | (1258-59) | ... | 57 Rudhīrōd- gārin. |
| (3250) | (149-50) | ... | 15 Vṛisha. | | | | |
| 3295 | 194-95 | 171-1924 | | 4362 | 1261-62 | 349-2984 | |
| (3335) | (234-35) | ... | 41 Plavaṅga. | 4422 | 1321-22 | 95-3952 | |
| 3354 | 253-54 | 282-5480 | | (4444) | (1343-44) | ... | 23 Virōdhin. |
| 3414 | 313-14 | 28-6448 | | 4481 | 1380-81 | 206-7507 | |
| (3430) | (319-20) | ... | 7 Śrīmukha. | (4529) | (1428-29) | ... | 49 Rākṣasa. |
| 3473 | 372-73 | 140-0003 | | 4540 | 1439-40 | 318-1063 | |
| (3506) | (405-06) | ... | 34 Śārvarin. | 4600 | 1499-1500 | 64-2031 | |
| 3532 | 431-32 | 251-3558 | | (4615) | (1514-15) | ... | 6 Chitrabhā- nū. |
| (3591) | (490-91) | ... | 60 Kshaya. | | | | |
| 3591 | 490-91 | 362-7114 | | 4659 | 1558-59 | 175-5586 | |
| 3651 | 550-51 | 108-8082 | | (4700) | (1599-1600) | ... | 42 Kīlaka. |
| (3676) | (575-76) | ... | 26 Nandana. | 4718 | 1617-18 | 286-9141 | |
| 3710 | 609-10 | 220-1637 | | 4778 | 1677-78 | 33-0110 | |
| (3762) | (661-62) | ... | 53 Siddhārthin. | | | | |
| 3769 | 668-69 | 331-5192 | | (4785) | (1684-85) | ... | 8 Bhāva. |
| 3829 | 728-29 | 77-6161 | | 4837 | 1736-37 | 144-3665 | |
| (3847) | (746-47) | ... | 19 Pārthiva. | | | | |
| 3888 | 787-88 | 188-9716 | | (4871) | (1770-71) | ... | 35 Plava. |
| (3932) | (831-32) | ... | 45 Virōdhakṛit. | 4896 | 1795-96 | 255-7220 | |
| 3947 | 846-47 | 300-3271 | | 4956 | 1855-56 | 1-8188 | |
| | | | | | | | |
| 4007 | 906-07 | 46-4239 | | (4956) | (1855-56) | | 1 Prabhava. |
| (4017) | (916-17) | ... | 11 Jāvarn. | 5015 | 1914-15 | 113-1744 | |
| 4066 | 965-66 | 157-7795 | | | | | |

To determine the beginning and ending times of a sahvatsara use this Table with Table XXXID.
For śādhya see foot of Table XXXIC.

TABLE XLII.

The Jovian name of each Hindu Calendar year according to the different
Siddhāntas and systems of calculation.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|--------|----|----|-----|-----|----|----|----|----|----|----|----|-------------------|
| 3621 | 520-21 | 30 | 30 | ... | ... | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 21. Sarvajit. |
| 3622 | 521-22 | 31 | 31 | ... | ... | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 22. Sarvadhārīn. |
| 3623 | 522-23 | 32 | 32 | ... | ... | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 23. Vīradhīn. |
| 3624 | 523-24 | 33 | 33 | ... | ... | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 24. Vīrīta. |
| 3625 | 524-25 | 34 | 34 | ... | ... | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 25. Khara. |
| 3626 | 525-26 | 35 | 35 | ... | ... | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 26. Nandana. |
| 3627 | 526-27 | 36 | 36 | ... | ... | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 27. Vijaya. |
| 3628 | 527-28 | 37 | 37 | ... | ... | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 28. Jaya. |
| 3629 | 528-29 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 29. Monmatha. |
| 3630 | 529-30 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 30. Darnukha. |
| 3631 | 530-31 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 31. Hēmalamba. |
| 3632 | 531-32 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 32. Vilamba. |
| 3633 | 532-33 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 33. Vīharin. |
| 3634 | 533-34 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 34. Śivarin. |
| 3635 | 534-35 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 35. Piava. |
| 3636 | 535-36 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 36. Śubhahrit. |
| 3637 | 536-37 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 37. Śobhana. |
| 3638 | 537-38 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 38. Kṛśhīn. |
| 3639 | 538-39 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 39. Yuvāvān. |
| 3640 | 539-40 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 40. Parābhava. |
| 3641 | 540-41 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 41. Pīlavaṅga. |
| 3642 | 541-42 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 42. Kīlaka. |
| 3643 | 542-43 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 43. Saumya. |
| 3644 | 543-44 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 44. Sadharana. |
| 3645 | 544-45 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 45. Vīradhahrit. |
| 3646 | 545-46 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 46. Paridhāvīn. |
| 3647 | 546-47 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 47. Pramadin. |
| 3648 | 547-48 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 48. Ananda. |
| 3649 | 548-49 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 49. Rākhana. |
| 3650 | 549-50 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 50. Anala. |
| 3651 | 550-51 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 51. Piṅkala. |
| 3652 | 551-52 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 52. Kālyakṛta. |
| 3653 | 552-53 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 53. Siddhārthīn. |
| 3654 | 553-54 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 54. Raudra. |
| 3655 | 554-55 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 55. Durnati. |
| 3656 | 555-56 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 56. Dandubhi. |
| 3657 | 556-57 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 57. Rudhīrāśarīn. |
| 3658 | 557-58 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 58. Raktāksha. |
| 3659 | 558-59 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 59. Kṛśhāna. |
| 3660 | 559-60 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 60. Kshaya. |

[illegible]

TABLE XLII—*contd.*

| Year A.D. | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | Year A.D. | | Names of the Sixty adventures of the cycle of Jupiter. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Expired year of Kaliyuga. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | | SŪRYA-S. SO MĒA. | | SŪRYA-S. WITH MĒA. | | First Arya-S. | | of SŪRYA-S. | | BRAHMA-S. AND S. SMO. | | SECOND Arya-S. | |

| I | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|----|----|-----|-----|----|----|----|----|----|----|----|------------------|
| 3861 | 760-61 | 33 | 33 | ... | ... | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 21. Sarcjit. |
| 3862 | 761-62 | 34 | 34 | ... | ... | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 22. Sarcadharin. |
| 3863 | 762-63 | 35 | 35 | ... | ... | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 23. Viridin. |
| 3864 | 763-64 | 36 | 36 | ... | ... | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 24. Virita. |
| 3865 | 764-65 | 37 | 37 | ... | ... | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 25. Khara. |
| 3866 | 765-66 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 26. Nandana. |
| 3867 | 766-67 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 27. Vijaya. |
| 3868 | 767-68 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 28. Jaya. |
| 3869 | 768-69 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 29. Manmatha. |
| 3870 | 769-70 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 30. Durnukha. |
| 3871 | 770-71 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 31. Hemalamba. |
| 3872 | 771-72 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 32. Vilamba. |
| 3873 | 772-73 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 33. Vikarin. |
| 3874 | 773-74 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 34. Sarcarin. |
| 3875 | 774-75 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 35. Playa. |
| 3876 | 775-76 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 36. Sobhakrit. |
| 3877 | 776-77 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 37. Sobhana. |
| 3878 | 777-78 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 38. Krodhin. |
| 3879 | 778-79 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 39. Visavenu. |
| 3880 | 779-80 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 40. Paribhava. |
| 3881 | 780-81 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 41. Plavanga. |
| 3882 | 781-82 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 42. Khaba. |
| 3883 | 782-83 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 43. Samya. |
| 3884 | 783-84 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 44. Sidhara. |
| 3885 | 784-85 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 45. Viridhakrit. |
| 3886 | 785-86 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 46. Paridharin. |
| 3887 | 786-87 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 47. Pramadin. |
| 3888 | 787-88 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 48. Ananda. |
| 3889 | 788-89 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 49. Rakasha. |
| 3890 | 789-90 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 50. Anala. |
| 3891 | 790-91 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 51. Pingala. |
| 3892 | 791-92 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 52. Kalayuka. |
| 3893 | 792-93 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 53. Sidharthin. |
| 3894 | 793-94 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 54. Raudra. |
| 3895 | 794-95 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 55. Durnati. |
| 3896 | 795-96 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 56. Dandubhi. |
| 3897 | 796-97 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 57. Radhargam. |
| 3898 | 797-98 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 58. Raktakala. |
| 3899 | 798-99 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 59. Krodhina. |
| 3900 | 799-800 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 60. Kalya. |

TABLE XLII—*contd.*

| Year A.D. | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENTS OR AT MEAN, MĒSHA AMKRĀNTI. | | | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | | | Names of the Sixty samvatsaras of the cycle of Jupiter. | | |
|--------------------------|---|--|---------------|-------------------|--------------------------|---------------|-------------------|----------------------|-------------------|---------------|-------------------------------|---------------|-------------------|---|----|----|---------------|----|----|----|----|----|----|----|----|--|----|------------------|
| Expired year of Kaliyuga | 1 | Sūrya- S. so mā. | | | Sūrya- S. with mā. | | | First Arva- S. | | | 2 ^d Arva- S. | | | Sūrya- S. and Arva- S. | | | Mean M. S. | | | | | | | | | | | |
| | | Apparent M. S. | Mean M. S. | Apparent M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | | | | | | | | | | | | | | |
| 3941 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 1. Prabhava. |
| 3942 | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2. Vibhava. |
| 3943 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 3. Sukla. |
| 3944 | | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 4. Pramāda. |
| 3945 | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 5. Prajapati. |
| 3946 | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 6. Aograsa. |
| 3947 | | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 7. Salmukha. |
| 3948 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 8. Bhāva. |
| 3949 | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 9. Yuvan. |
| 3950 | | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 10. Dhātṛ. |
| 3951 | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 11. Isvara. |
| 3952 | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 12. Paśubhāva. |
| 3953 | | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 13. Pramāthin. |
| 3954 | | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 14. Vikrama. |
| 3955 | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 15. Vṛsha. |
| 3956 | | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 16. Chitrabhāva. |
| 3957 | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 17. Subhāva. |
| 3958 | | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 18. Taraṇa. |
| 3959 | | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 19. Parthiva. |
| 3960 | | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 20. Vyāva. |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|----|----|-----|-----|----|----|----|----|----|----|----|--------------------|
| 3981 | 880-81 | 34 | 34 | ... | ... | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 21. Sarvajit. |
| 3982 | 881-82 | 35 | 35 | ... | ... | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 22. Sarvadhārīn. |
| 3983 | 882-83 | 36 | 36 | ... | ... | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 23. Viśvān. |
| 3984 | 883-84 | 37 | 37 | ... | ... | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 24. Vikrīta. |
| 3985 | 884-85 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 25. Klara. |
| 3986 | 885-86 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 26. Nandana. |
| 3987 | 886-87 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 27. Vijaya. |
| 3988 | 887-88 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 28. Jaya. |
| 3989 | 888-89 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 29. Manmatha. |
| 3990 | 889-90 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 30. Durnukha. |
| 3991 | 890-91 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 31. Hamsamba. |
| 3992 | 891-92 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 32. Vilamba. |
| 3993 | 892-93 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 33. Vikārīn. |
| 3994 | 893-94 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 34. Sārvarīn. |
| 3995 | 894-95 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 35. Phava. |
| 3996 | 895-96 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 36. Śubhadrī |
| 3997 | 896-97 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 37. Śubhāna. |
| 3998 | 897-98 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 38. Krōdhīn. |
| 3999 | 898-99 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 39. Viśvāsen. |
| 4000 | 899-900 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 40. Parābhava. |
| 4001 | 900-01 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 41. Pāvadga. |
| 4002 | 901-02 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 42. Klaka. |
| 4003 | 902-03 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 43. Saunya. |
| 4004 | 903-04 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 44. Śādhārāga. |
| 4005 | 904-05 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 45. Viśvābhadrī. |
| 4006 | 905-06 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 46. Paridhāvin. |
| 4007 | 906-07 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 47. Pramāṭin. |
| 4008 | 907-08 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 48. Ananta. |
| 4009 | 908-09 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 49. Rākhaṣa. |
| 4010 | 909-10 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 50. Anala. |
| 4011 | 910-11 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 51. Pīṅgala. |
| 4012 | 911-12 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 52. Kālayukta. |
| 4013 | 912-13 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 53. Śādhārādhīn. |
| 4014 | 913-14 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 54. Raudra. |
| 4015 | 914-15 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 55. Darnadi. |
| 4016 | 915-16 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 56. Dandubhi. |
| 4017 | 916-17 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 57. Itadhārīgārīn. |
| 4018 | 917-18 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 58. Itakākha. |
| 4019 | 918-19 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 59. Kṛōdhana. |
| 4020 | 919-20 | 13 | 13 | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 60. Kālaya. |

TABLE XII—*contd.*

| NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | Name of the Sixty Samvathas of the cycle of Jupiter. | | | | |
|--|----------|-----------------|------|-------------------|------|---------------|------|-------------------------|------|--|------|-----------|------|-----------------|------|-------------------|------|---------------|------|--|-------------------------|------|----------------|------|
| Year A.D. | | SŪRYA-S. SO MĒ. | | SŪRYA-S. WITH MĒ. | | FIRST ĀRYA-S. | | CHANDRA-S. AND S. SIND. | | SECOND ĀRYA-S. | | Year A.D. | | SŪRYA-S. SO MĒ. | | SŪRYA-S. WITH MĒ. | | FIRST ĀRYA-S. | | | CHANDRA-S. AND S. SIND. | | SECOND ĀRYA-S. | |
| Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | Apparent | Mean | Apparent | Mean |
| 4061 | 960-61 | 55 | 55 | ... | ... | 55 | 55 | ... | ... | 55 | 55 | ... | ... | 55 | 55 | ... | ... | 55 | 55 | ... | ... | 55 | 55 | |
| 4062 | 961-62 | 56 | 56 | ... | ... | 56 | 56 | ... | ... | 56 | 56 | ... | ... | 56 | 56 | ... | ... | 56 | 56 | ... | ... | 56 | 56 | |
| 4063 | 962-63 | 57 | 57 | ... | ... | 57 | 57 | ... | ... | 57 | 57 | ... | ... | 57 | 57 | ... | ... | 57 | 57 | ... | ... | 57 | 57 | |
| 4064 | 963-64 | 58 | 58 | ... | ... | 58 | 58 | ... | ... | 58 | 58 | ... | ... | 58 | 58 | ... | ... | 58 | 58 | ... | ... | 58 | 58 | |
| 4065 | 964-65 | 59 | 59 | ... | ... | 59 | 59 | ... | ... | 59 | 59 | ... | ... | 59 | 59 | ... | ... | 59 | 59 | ... | ... | 59 | 59 | |
| 4066 | 965-66 | 60 | 60 | ... | ... | 60 | 60 | ... | ... | 60 | 60 | ... | ... | 60 | 60 | ... | ... | 60 | 60 | ... | ... | 60 | 60 | |
| 4067 | 966-67 | 1 | 1 | ... | ... | 1 | 1 | ... | ... | 1 | 1 | ... | ... | 1 | 1 | ... | ... | 1 | 1 | ... | ... | 1 | 1 | |
| 4068 | 967-68 | 2 | 2 | ... | ... | 2 | 2 | ... | ... | 2 | 2 | ... | ... | 2 | 2 | ... | ... | 2 | 2 | ... | ... | 2 | 2 | |
| 4069 | 968-69 | 3 | 3 | ... | ... | 3 | 3 | ... | ... | 3 | 3 | ... | ... | 3 | 3 | ... | ... | 3 | 3 | ... | ... | 3 | 3 | |
| 4070 | 969-70 | 4 | 4 | ... | ... | 4 | 4 | ... | ... | 4 | 4 | ... | ... | 4 | 4 | ... | ... | 4 | 4 | ... | ... | 4 | 4 | |
| 4071 | 970-71 | 5 | 5 | ... | ... | 5 | 5 | ... | ... | 5 | 5 | ... | ... | 5 | 5 | ... | ... | 5 | 5 | ... | ... | 5 | 5 | |
| 4072 | 971-72 | 6 | 6 | ... | ... | 6 | 6 | ... | ... | 6 | 6 | ... | ... | 6 | 6 | ... | ... | 6 | 6 | ... | ... | 6 | 6 | |
| 4073 | 972-73 | 7 | 7 | ... | ... | 7 | 7 | ... | ... | 7 | 7 | ... | ... | 7 | 7 | ... | ... | 7 | 7 | ... | ... | 7 | 7 | |
| 4074 | 973-74 | 8 | 8 | ... | ... | 8 | 8 | ... | ... | 8 | 8 | ... | ... | 8 | 8 | ... | ... | 8 | 8 | ... | ... | 8 | 8 | |
| 4075 | 974-75 | 9 | 9 | ... | ... | 9 | 9 | ... | ... | 9 | 9 | ... | ... | 9 | 9 | ... | ... | 9 | 9 | ... | ... | 9 | 9 | |
| 4076 | 975-76 | 10 | 10 | ... | ... | 10 | 10 | ... | ... | 10 | 10 | ... | ... | 10 | 10 | ... | ... | 10 | 10 | ... | ... | 10 | 10 | |
| 4077 | 976-77 | 11 | 11 | ... | ... | 11 | 11 | ... | ... | 11 | 11 | ... | ... | 11 | 11 | ... | ... | 11 | 11 | ... | ... | 11 | 11 | |
| 4078 | 977-78 | 12 | 12 | ... | ... | 12 | 12 | ... | ... | 12 | 12 | ... | ... | 12 | 12 | ... | ... | 12 | 12 | ... | ... | 12 | 12 | |
| 4079 | 978-79 | 13 | 13 | ... | ... | 13 | 13 | ... | ... | 13 | 13 | ... | ... | 13 | 13 | ... | ... | 13 | 13 | ... | ... | 13 | 13 | |
| 4080 | 979-80 | 14 | 14 | ... | ... | 14 | 14 | ... | ... | 14 | 14 | ... | ... | 14 | 14 | ... | ... | 14 | 14 | ... | ... | 14 | 14 | |
| 4081 | 980-81 | 15 | 15 | ... | ... | 15 | 15 | ... | ... | 15 | 15 | ... | ... | 15 | 15 | ... | ... | 15 | 15 | ... | ... | 15 | 15 | |
| 4082 | 981-82 | 16 | 16 | ... | ... | 16 | 16 | ... | ... | 16 | 16 | ... | ... | 16 | 16 | ... | ... | 16 | 16 | ... | ... | 16 | 16 | |
| 4083 | 982-83 | 17 | 17 | ... | ... | 17 | 17 | ... | ... | 17 | 17 | ... | ... | 17 | 17 | ... | ... | 17 | 17 | ... | ... | 17 | 17 | |
| 4084 | 983-84 | 18 | 18 | ... | ... | 18 | 18 | ... | ... | 18 | 18 | ... | ... | 18 | 18 | ... | ... | 18 | 18 | ... | ... | 18 | 18 | |
| 4085 | 984-85 | 19 | 19 | ... | ... | 19 | 19 | ... | ... | 19 | 19 | ... | ... | 19 | 19 | ... | ... | 19 | 19 | ... | ... | 19 | 19 | |
| 4086 | 985-86 | 20 | 20 | ... | ... | 20 | 20 | ... | ... | 20 | 20 | ... | ... | 20 | 20 | ... | ... | 20 | 20 | ... | ... | 20 | 20 | |
| 4087 | 986-87 | 21 | 21 | ... | ... | 21 | 21 | ... | ... | 21 | 21 | ... | ... | 21 | 21 | ... | ... | 21 | 21 | ... | ... | 21 | 21 | |
| 4088 | 987-88 | 22 | 22 | ... | ... | 22 | 22 | ... | ... | 22 | 22 | ... | ... | 22 | 22 | ... | ... | 22 | 22 | ... | ... | 22 | 22 | |
| 4089 | 988-89 | 23 | 23 | ... | ... | 23 | 23 | ... | ... | 23 | 23 | ... | ... | 23 | 23 | ... | ... | 23 | 23 | ... | ... | 23 | 23 | |
| 4090 | 989-90 | 24 | 24 | ... | ... | 24 | 24 | ... | ... | 24 | 24 | ... | ... | 24 | 24 | ... | ... | 24 | 24 | ... | ... | 24 | 24 | |
| 4091 | 990-91 | 25 | 25 | ... | ... | 25 | 25 | ... | ... | 25 | 25 | ... | ... | 25 | 25 | ... | ... | 25 | 25 | ... | ... | 25 | 25 | |
| 4092 | 991-92 | 26 | 26 | ... | ... | 26 | 26 | ... | ... | 26 | 26 | ... | ... | 26 | 26 | ... | ... | 26 | 26 | ... | ... | 26 | 26 | |
| 4093 | 992-93 | 27 | 27 | ... | ... | 27 | 27 | ... | ... | 27 | 27 | ... | ... | 27 | 27 | ... | ... | 27 | 27 | ... | ... | 27 | 27 | |
| 4094 | 993-94 | 28 | 28* | ... | ... | 28 | 28* | ... | ... | 28 | 28* | ... | ... | 28 | 28* | ... | ... | 28 | 28 | ... | ... | 28 | 28 | |
| 4095 | 994-95 | 29* | 30 | ... | ... | 29* | 30 | ... | ... | 29 | 30 | ... | ... | 29 | 30 | ... | ... | 29 | 30 | ... | ... | 29 | 30 | |
| 4096 | 995-96 | 31 | 31 | ... | ... | 31 | 31 | ... | ... | 31 | 31 | ... | ... | 31 | 31 | ... | ... | 31 | 31 | ... | ... | 31 | 31 | |
| 4097 | 996-97 | 32 | 32 | ... | ... | 32 | 32 | ... | ... | 32 | 32 | ... | ... | 32 | 32 | ... | ... | 32 | 32 | ... | ... | 32 | 32 | |
| 4098 | 997-98 | 33 | 33 | ... | ... | 33 | 33 | ... | ... | 33 | 33 | ... | ... | 33 | 33 | ... | ... | 33 | 33 | ... | ... | 33 | 33 | |
| 4099 | 998-99 | 34 | 34 | ... | ... | 34 | 34 | ... | ... | 34 | 34 | ... | ... | 34 | 34 | ... | ... | 34 | 34 | ... | ... | 34 | 34 | |
| 4100 | 999-1000 | 35 | 35 | ... | ... | 35 | 35 | ... | ... | 35 | 35 | ... | ... | 35 | 35 | ... | ... | 35 | 35 | ... | ... | 35 | 35 | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------------|---------|-----|----|-----|-----|-----|-----|----|----|-----|-----|-----|------|
| 4101 | 1000-01 | 30 | 36 | ... | ... | ... | 30 | 36 | 36 | 36 | 35 | 35 | 4141 |
| 4102 | 1001-02 | 37 | 37 | ... | ... | ... | 37 | 37 | 37 | 37 | 36 | 36 | 4142 |
| 4103 | 1002-03 | 38 | 38 | ... | ... | ... | 38 | 38 | 38 | 37* | 37* | 37* | 4143 |
| 4104 | 1003-04 | 39 | 39 | ... | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 4144 |
| 4105 | 1004-05 | 40 | 40 | ... | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 4145 |
| 4106 | 1005-06 | 41 | 41 | ... | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 4146 |
| 4107 | 1006-07 | 42 | 42 | ... | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 4147 |
| 4108 | 1007-08 | 43 | 43 | ... | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 4148 |
| 4109 | 1008-09 | 44 | 44 | ... | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 4149 |
| 4110 | 1009-10 | 45 | 45 | ... | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 4150 |
| 4111 | 1010-11 | 46 | 46 | ... | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 4151 |
| 4112 | 1011-12 | 47 | 47 | ... | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 4152 |
| 4113 | 1012-13 | 48 | 48 | ... | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 4153 |
| 4114 | 1013-14 | 49 | 49 | ... | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 4154 |
| 4115 | 1014-15 | 50 | 50 | ... | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 4155 |
| 4116 | 1015-16 | 51 | 51 | ... | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 4156 |
| 4117 | 1016-17 | 52 | 52 | ... | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 4157 |
| 4118 | 1017-18 | 53 | 53 | ... | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 4158 |
| 4119 | 1018-19 | 54 | 54 | ... | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 4159 |
| 4120 | 1019-20 | 55 | 55 | ... | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 4160 |
| 4121 | 1020-21 | 56 | 56 | ... | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 4161 |
| 4122 | 1021-22 | 57 | 57 | ... | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 4162 |
| 4123 | 1022-23 | 58 | 58 | ... | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 4163 |
| 4124 | 1023-24 | 59 | 59 | ... | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 4164 |
| 4125 | 1024-25 | 60 | 60 | ... | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 4165 |
| 4126 | 1025-26 | 1 | 1 | ... | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 4166 |
| 4127 | 1026-27 | 2 | 2 | ... | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 4167 |
| 4128 | 1027-28 | 3 | 3 | ... | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 4168 |
| 4129 | 1028-29 | 4 | 4 | ... | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4169 |
| 4130 | 1029-30 | 5 | 5 | ... | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 4170 |
| 4131 | 1030-31 | 6 | 6 | ... | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 4171 |
| 4132 | 1031-32 | 7 | 7 | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 4172 |
| 4133 | 1032-33 | 8 | 8 | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 4173 |
| 4134 | 1033-34 | 9 | 9 | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 4174 |
| 4135 | 1034-35 | 10 | 10 | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 4175 |
| 4136 | 1035-36 | 11 | 11 | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 4176 |
| 4137 | 1036-37 | 12 | 12 | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 4177 |
| 4138 | 1037-38 | 13 | 13 | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 4178 |
| 4139 | 1038-39 | 14 | 14 | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 4179 |
| 4140 | 1039-40 | 15 | 15 | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 4180 |
| 21. Sarvajit. | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| 22. Saryadhāra. | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| 23. Virādhan. | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| 24. Vikrīta. | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 25. Khara. | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 26. Nandana. | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| 27. Vijaya. | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| 28. Jaya. | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| 29. Manmatha. | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 30. Durmatha. | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| 31. Hēmalambha. | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| 32. Vihambha. | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| 33. Vikārin. | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| 34. Sāvārin. | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |
| 35. Phava. | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 36. Subhadrīt. | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 |
| 37. Sōbhana. | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 38. Krōdhin. | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| 39. Viśvavasu. | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| 40. Parābhava. | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| 41. Prayāga. | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| 42. Kāśaka. | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 43. Saumya. | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 |
| 44. Sādharēpa. | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| 45. Virādhanarīt. | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 46. Paridhāvin. | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 47. Pramādin. | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| 48. Ananda. | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
| 49. Rāśahaa. | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| 50. Anala. | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| 51. Pīngala. | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 |
| 52. Kālayukta. | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| 53. Siddhārthm. | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| 54. Rasāra. | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| 55. Durnasti. | 50 | 50 | 50 | 50* | 50* | 50* | 50 | 50 | 50 | 50* | 50* | 50 | 50 |
| 56. Dandubhi. | 51* | 51* | 51 | 52 | 52 | 51 | 51* | 51 | 51 | 51 | 52 | 51 | 51 |
| 57. Rōhitōdgarin. | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| 58. Raktākāsha. | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| 59. Krōdhana. | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| 60. Kshaya. | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|----|----|-----|-----|----|----|----|----|----|----|----|--------------------|
| 4221 | 1130-31 | 37 | 37 | ... | ... | 37 | 37 | 37 | 37 | 37 | 37 | 17 | 21. Sarvajit. |
| 4222 | 1121-22 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 18 | 18 | 22. Sarvadhārin. |
| 4223 | 1122-23 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 19 | 19 | 23. Virodhin. |
| 4224 | 1123-24 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 20 | 20 | 24. Vikrīta. |
| 4225 | 1124-25 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 21 | 21 | 25. Khara. |
| 4226 | 1125-26 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 22 | 22 | 26. Nandana. |
| 4227 | 1126-27 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 23 | 23 | 27. Vijaya. |
| 4228 | 1127-28 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 24 | 24 | 28. Jaya. |
| 4229 | 1128-29 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 25 | 25 | 29. Menmatha. |
| 4230 | 1129-30 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 26 | 26 | 30. Durnukhā. |
| 4231 | 1130-31 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 27 | 27 | 31. Hīmalambha. |
| 4232 | 1131-32 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 28 | 28 | 32. Vibhanta. |
| 4233 | 1132-33 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 29 | 29 | 33. Yikāra. |
| 4234 | 1133-34 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 30 | 30 | 34. Sārvarin. |
| 4235 | 1134-35 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 31 | 31 | 35. Pava. |
| 4236 | 1135-36 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 32 | 32 | 36. Subhalepit. |
| 4237 | 1136-37 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 33 | 33 | 37. Sobhanta. |
| 4238 | 1137-38 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 34 | 34 | 38. Krodhān. |
| 4239 | 1138-39 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 35 | 35 | 39. Viśvānu. |
| 4240 | 1139-40 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 36 | 36 | 40. Parābhava. |
| 4241 | 1140-41 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 37 | 37 | 41. Pavaśoga. |
| 4242 | 1141-42 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 38 | 38 | 42. Kikāra. |
| 4243 | 1142-43 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 39 | 39 | 43. Saunya. |
| 4244 | 1143-44 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 40 | 40 | 44. Sudhāraṇa. |
| 4245 | 1144-45 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 41 | 41 | 45. Virodhalepit. |
| 4246 | 1145-46 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 42 | 42 | 46. Paridhārin. |
| 4247 | 1146-47 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 43 | 43 | 47. Pramādin. |
| 4248 | 1147-48 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 44 | 44 | 48. Ananda. |
| 4249 | 1148-49 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 45 | 45 | 49. Rākeśha. |
| 4250 | 1149-50 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 46 | 46 | 50. Anala. |
| 4251 | 1150-51 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 47 | 47 | 51. Piṅgala. |
| 4252 | 1151-52 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 48 | 48 | 52. Kālayukta. |
| 4253 | 1152-53 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 49 | 49 | 53. Siddhārhin. |
| 4254 | 1153-54 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 50 | 50 | 54. Raudra. |
| 4255 | 1154-55 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 51 | 51 | 55. Durnadi. |
| 4256 | 1155-56 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 52 | 52 | 56. Dundubhi. |
| 4257 | 1156-57 | 13 | 13 | ... | ... | 13 | 13 | 13 | 13 | 13 | 53 | 53 | 57. Rudhīrōdgarin. |
| 4258 | 1157-58 | 14 | 14 | ... | ... | 14 | 14 | 14 | 14 | 14 | 54 | 54 | 58. Raktāksha. |
| 4259 | 1158-59 | 15 | 15 | ... | ... | 15 | 15 | 15 | 15 | 15 | 55 | 55 | 59. Krodhanta. |
| 4260 | 1159-60 | 16 | 16 | ... | ... | 16 | 16 | 16 | 16 | 16 | 56 | 56 | 60. Keshava. |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|----|----|-----|-----|----|----|----|----|----|----|----|-------------------|
| 4341 | 1240-41 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 21. Sarvajit. |
| 4342 | 1241-42 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 22. Sarvadhārīn. |
| 4343 | 1242-43 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 23. Vīśāhīn. |
| 4344 | 1243-44 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 24. Vīṇīkṛt. |
| 4345 | 1244-45 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 25. Khari. |
| 4346 | 1245-46 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 26. Nandana. |
| 4347 | 1246-47 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 27. Vijaya. |
| 4348 | 1247-48 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 28. Jaya. |
| 4349 | 1248-49 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 29. Manmatha. |
| 4350 | 1249-50 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 30. Durmukha. |
| 4351 | 1250-51 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 31. Hémakṣha. |
| 4352 | 1251-52 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 32. Vilamba. |
| 4353 | 1252-53 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 33. Vikārīn. |
| 4354 | 1253-54 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 34. Sārvarīn. |
| 4355 | 1254-55 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 35. Plava. |
| 4356 | 1255-56 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 36. Śubhadrī. |
| 4357 | 1256-57 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 37. Sōbhana. |
| 4358 | 1257-58 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 38. Krodhīn. |
| 4359 | 1258-59 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 39. Vīśvāvan. |
| 4360 | 1259-60 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 40. Parabhava. |
| 4361 | 1260-61 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 41. Phavaṅga. |
| 4362 | 1261-62 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 42. Kilaba. |
| 4363 | 1262-63 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 43. Saṁnya. |
| 4364 | 1263-64 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 44. Sādharaṇa. |
| 4365 | 1264-65 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 45. Vīśāhīkṛt. |
| 4366 | 1265-66 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 46. Paridhāvīn. |
| 4367 | 1266-67 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 47. Pannādhīn. |
| 4368 | 1267-68 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 48. Ananda. |
| 4369 | 1268-69 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 49. Rāksasa. |
| 4370 | 1269-70 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 50. Anala. |
| 4371 | 1270-71 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 51. Pāyala. |
| 4372 | 1271-72 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 52. Kāyukṛta. |
| 4373 | 1272-73 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 53. Siddhārthīn. |
| 4374 | 1273-74 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 54. Raudra. |
| 4375 | 1274-75 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 55. Dardra. |
| 4376 | 1275-76 | 13 | 13 | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 56. Dardubhī. |
| 4377 | 1276-77 | 14 | 14 | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 57. Rudrōrōgārīn. |
| 4378 | 1277-78 | 15 | 15 | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 58. Rakṣasaka. |
| 4379 | 1278-79 | 16 | 16 | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 59. Krodhān. |
| 4380 | 1279-80 | 17 | 17 | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 60. Kalya. |
| 4380 | 1279-80 | 18 | 18 | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | |

TABLE XLII—*contd.*

| NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI. | | | | | | | | | | | | | Names of the Sixty samvatsaras of the cycle of Jupiter. |
|---|---------------|-------------------------|---------------|--------------------------|---------------|----------------------|---------------|------------------------------|---------------|-----------------------|---------------|------------------------------|---|-------------------|-------------------------|-------------------|--------------------------|-------------------|----------------------|-------------------|------------------------------|-------------------|-----------------------|-------------------|---------------|--|
| Year A.D. | | SŪRYA- S. NO. MĀ. | | SŪRYA- S. WITH MĀ. | | FIRST ĀRYA- S. | | Brahma S. and S. Sino. | | SECOND ĀRYA- S. | | Expired year of Kalpyuga. | Year A.D. | | SŪRYA- S. NO. MĀ. | | SŪRYA- S. WITH MĀ. | | FIRST ĀRYA- S. | | Brahma S. and S. Sino. | | SECOND ĀRYA- S. | | | |
| Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | | 1 | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | Apparent M. S. | Mean M. S. | |
| 4421 | 1320.21 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 4421 | 1340.41 | 30 | 30 | ... | ... | 30 | 30 | 30 | 30 | 30 | 30 | 19 | 19 | |
| 4422 | 1321.22 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 4422 | 1341.42 | 21 | 21 | ... | ... | 21 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | |
| 4423 | 1322.23 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 4423 | 1342.43 | 22 | 22 | ... | ... | 22 | 22 | 22 | 22 | 22 | 22 | 21 | 21 | |
| 4424 | 1323.24 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 4424 | 1343.44 | 23 | 23 | ... | ... | 23 | 23 | 23 | 23 | 23 | 23 | 22 | 22 | |
| 4425 | 1324.25 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 4425 | 1344.45 | 24 | 24 | ... | ... | 24 | 24 | 24 | 24 | 24 | 24 | 23* | 23 | |
| 4426 | 1325.26 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4426 | 1345.46 | 25 | 25 | ... | ... | 25 | 25 | 25 | 25 | 25 | 25 | 24 | 24 | |
| 4427 | 1326.27 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 4427 | 1346.47 | 26 | 26 | ... | ... | 26 | 26 | 26 | 26 | 26 | 26 | 25 | 25 | |
| 4428 | 1327.28 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 4428 | 1347.48 | 27 | 27 | ... | ... | 27 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | |
| 4429 | 1328.29 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 4429 | 1348.49 | 28 | 28 | ... | ... | 28 | 28 | 28 | 28 | 28 | 28 | 27 | 27 | |
| 4430 | 1329.30 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 4430 | 1349.50 | 29 | 29 | ... | ... | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | |
| 4431 | 1330.31 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 4431 | 1350.51 | 30 | 30 | ... | ... | 30 | 30 | 30 | 30 | 30 | 30 | 29 | 29 | |
| 4432 | 1331.32 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 4432 | 1351.52 | 31 | 31 | ... | ... | 31 | 31 | 31 | 31 | 31 | 31 | 30 | 30 | |
| 4433 | 1332.33 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 4433 | 1352.53 | 32 | 32 | ... | ... | 32 | 32 | 32 | 32 | 32 | 32 | 31 | 31 | |
| 4434 | 1333.34 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 4434 | 1353.54 | 33 | 33 | ... | ... | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | |
| 4435 | 1334.35 | 13 | 13 | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 4435 | 1354.55 | 34 | 34 | ... | ... | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | |
| 4436 | 1335.36 | 14* | 14* | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 4436 | 1355.56 | 35 | 35 | ... | ... | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | |
| 4437 | 1336.37 | 15 | 15 | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 4437 | 1356.57 | 36 | 36 | ... | ... | 36 | 36 | 36 | 36 | 36 | 36 | 35 | 35 | |
| 4438 | 1337.38 | 16 | 16 | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 4438 | 1357.58 | 37 | 37 | ... | ... | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | |
| 4439 | 1338.39 | 17 | 17 | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 4439 | 1358.59 | 38 | 38 | ... | ... | 38 | 38 | 38 | 38 | 38 | 38 | 37 | 37 | |
| 4440 | 1339.40 | 18 | 18 | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 4440 | 1359.60 | 39 | 39 | ... | ... | 39 | 39 | 39 | 39 | 39 | 39 | 38 | 38 | |
| | | 19 | 19 | ... | ... | 19 | 19 | 19 | 19 | 19 | 19 | | | | | ... | ... | | | | | | | 39 | 39 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|-----------|----|----|-----|-----|----|----|----|----|----|----|----|--------------------|
| 4461 | 1360-61 | 40 | 40 | ... | ... | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 21. Sarvajit. |
| 4462 | 1361-62 | 41 | 41 | ... | ... | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 22. Sarvadhārta. |
| 4463 | 1362-63 | 42 | 42 | ... | ... | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 23. Virāḥin. |
| 4464 | 1363-64 | 43 | 43 | ... | ... | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 24. Vikṛita. |
| 4465 | 1364-65 | 44 | 44 | ... | ... | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 25. Khara. |
| 4466 | 1365-66 | 45 | 45 | ... | ... | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 26. Nandana. |
| 4467 | 1366-67 | 46 | 46 | ... | ... | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 27. Vijaya. |
| 4468 | 1367-68 | 47 | 47 | ... | ... | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 28. Jāya. |
| 4469 | 1368-69 | 48 | 48 | ... | ... | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 29. Marmatha. |
| 4470 | 1369-70 | 49 | 49 | ... | ... | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 30. Durnukha. |
| 4471 | 1370-71 | 50 | 50 | ... | ... | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 31. Hāmalamba. |
| 4472 | 1371-72 | 51 | 51 | ... | ... | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 32. Vilamba. |
| 4473 | 1372-73 | 52 | 52 | ... | ... | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 33. Vikārin. |
| 4474 | 1373-74 | 53 | 53 | ... | ... | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 34. Sārvacin. |
| 4475 | 1374-75 | 54 | 54 | ... | ... | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 35. Pava. |
| 4476 | 1375-76 | 55 | 55 | ... | ... | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 36. Śubhakṛit. |
| 4477 | 1376-77 | 56 | 56 | ... | ... | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 37. Śobhana. |
| 4478 | 1377-78 | 57 | 57 | ... | ... | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 38. Krodhin. |
| 4479 | 1378-79 | 58 | 58 | ... | ... | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 39. Visāvaṇa. |
| 4480 | 1379-80 | 59 | 59 | ... | ... | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 40. Parābhava. |
| 4481 | 1380-81 | 60 | 60 | ... | ... | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 41. Pavaṅga. |
| 4482 | 1381-82 | 1 | 1 | ... | ... | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 42. Kilaka. |
| 4483 | 1382-83 | 2 | 2 | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 43. Saumya. |
| 4484 | 1383-84 | 3 | 3 | ... | ... | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 44. Śādhāraṇa. |
| 4485 | 1384-85 | 4 | 4 | ... | ... | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 45. Virōdhakṛit. |
| 4486 | 1385-86 | 5 | 5 | ... | ... | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 46. Paridhāvin. |
| 4487 | 1386-87 | 6 | 6 | ... | ... | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 47. Pramādin. |
| 4488 | 1387-88 | 7 | 7 | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 48. Ananda. |
| 4489 | 1388-89 | 8 | 8 | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 49. Rākhaṇa. |
| 4490 | 1389-90 | 9 | 9 | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 50. Anala. |
| 4491 | 1390-91 | 10 | 10 | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 51. Piṅgala. |
| 4492 | 1391-92 | 11 | 11 | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 52. Kāṣṭhika. |
| 4493 | 1392-93 | 12 | 12 | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 53. Siddhāntin. |
| 4494 | 1393-94 | 13 | 13 | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 54. Raadra. |
| 4495 | 1394-95 | 14 | 14 | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 55. Durnat. |
| 4496 | 1395-96 | 15 | 15 | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 56. Dundubhi. |
| 4497 | 1396-97 | 16 | 16 | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 57. Rudhīrōdgārīn. |
| 4498 | 1397-98 | 17 | 17 | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 58. Rakṣakaha. |
| 4499 | 1398-99 | 18 | 18 | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 59. Kṛōdhana. |
| 4500 | 1399-1400 | 19 | 19 | ... | ... | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 60. Kṣaya. |

TABLE XLII—*contd.*

| NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | |
|---|---------|------------------------|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|---|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|----|--|
| Year A.D. | | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | | |
| Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | | |
| 4541 | 1440-41 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4541 | 1440-41 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 1 | |
| 4542 | 1441-42 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4542 | 1441-42 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 2 | |
| 4543 | 1442-43 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4543 | 1442-43 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 3 | |
| 4544 | 1443-44 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4544 | 1443-44 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 4 | |
| 4545 | 1444-45 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4545 | 1444-45 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 5 | |
| 4546 | 1445-46 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4546 | 1445-46 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 6 | |
| 4547 | 1446-47 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4547 | 1446-47 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 7 | |
| 4548 | 1447-48 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4548 | 1447-48 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 8 | |
| 4549 | 1448-49 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4549 | 1448-49 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 9 | |
| 4550 | 1449-50 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4550 | 1449-50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 10 | |
| 4551 | 1450-51 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4551 | 1450-51 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 11 | |
| 4552 | 1451-52 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4552 | 1451-52 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | |
| 4553 | 1452-53 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4553 | 1452-53 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 13 | |
| 4554 | 1453-54 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4554 | 1453-54 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 14 | |
| 4555 | 1454-55 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4555 | 1454-55 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 15 | |
| 4556 | 1455-56 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4556 | 1455-56 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 16 | |
| 4557 | 1456-57 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4557 | 1456-57 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 17 | |
| 4558 | 1457-58 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4558 | 1457-58 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 18 | |
| 4559 | 1458-59 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 4559 | 1458-59 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 19 | |
| 4560 | 1459-60 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 4560 | 1459-60 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 20 | |

| NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | |
|---|---------|------------------------|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|---|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|----|--|
| Year A.D. | | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | | |
| Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | | |
| 4541 | 1440-41 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4541 | 1440-41 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 1 | |
| 4542 | 1441-42 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4542 | 1441-42 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 2 | |
| 4543 | 1442-43 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4543 | 1442-43 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 3 | |
| 4544 | 1443-44 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4544 | 1443-44 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 4 | |
| 4545 | 1444-45 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4545 | 1444-45 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 5 | |
| 4546 | 1445-46 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4546 | 1445-46 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 6 | |
| 4547 | 1446-47 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4547 | 1446-47 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 7 | |
| 4548 | 1447-48 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4548 | 1447-48 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 8 | |
| 4549 | 1448-49 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4549 | 1448-49 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 9 | |
| 4550 | 1449-50 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4550 | 1449-50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 10 | |
| 4551 | 1450-51 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4551 | 1450-51 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 11 | |
| 4552 | 1451-52 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4552 | 1451-52 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | |
| 4553 | 1452-53 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4553 | 1452-53 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 13 | |
| 4554 | 1453-54 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4554 | 1453-54 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 14 | |
| 4555 | 1454-55 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4555 | 1454-55 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 15 | |
| 4556 | 1455-56 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4556 | 1455-56 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 16 | |
| 4557 | 1456-57 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4557 | 1456-57 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 17 | |
| 4558 | 1457-58 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4558 | 1457-58 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 18 | |
| 4559 | 1458-59 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 4559 | 1458-59 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 19 | |
| 4560 | 1459-60 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 4560 | 1459-60 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 20 | |

| NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MESHA-SAMKRANTI. | | | | | | | | | | | | |
|---|---------|------------------------|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|---|------|--------------------------|------|----------------------|------|-----------------------------|------|-----------------------|------|--------------|----|--|
| Year A.D. | | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | SURYA S. SO MJA. | | SURYA S. WITH MJA. | | FIRST ARYA- S. | | SURYA S. AND S. SING. | | SECOND ARYA- S. | | Year A.D. | | |
| Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | Apparent | Mean | | | |
| 4541 | 1440-41 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4541 | 1440-41 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 1 | |
| 4542 | 1441-42 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4542 | 1441-42 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 2 | |
| 4543 | 1442-43 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4543 | 1442-43 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 3 | |
| 4544 | 1443-44 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4544 | 1443-44 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 4 | |
| 4545 | 1444-45 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4545 | 1444-45 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 5 | |
| 4546 | 1445-46 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4546 | 1445-46 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 6 | |
| 4547 | 1446-47 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4547 | 1446-47 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 7 | |
| 4548 | 1447-48 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4548 | 1447-48 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 8 | |
| 4549 | 1448-49 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4549 | 1448-49 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 9 | |
| 4550 | 1449-50 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4550 | 1449-50 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 10 | |
| 4551 | 1450-51 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4551 | 1450-51 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 11 | |
| 4552 | 1451-52 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4552 | 1451-52 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | |
| 4553 | 1452-53 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4553 | 1452-53 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 13 | |
| 4554 | 1453-54 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4554 | 1453-54 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 14 | |
| 4555 | 1454-55 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4555 | 1454-55 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 15 | |
| 4556 | 1455-56 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4556 | 1455-56 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 16 | |
| 4557 | 1456-57 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4557 | 1456-57 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 17 | |
| 4558 | 1457-58 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | | | | | | | | | | | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|-----------|----|----|-----|-----|----|----|----|----|----|----|----|-------------------|
| 4561 | 1480-81 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 21. Saravajit. |
| 4562 | 1481-82 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 22. Saravaharin. |
| 4563 | 1482-83 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 23. Vichhin. |
| 4564 | 1483-84 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 24. Vicchra. |
| 4565 | 1484-85 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 25. Khara. |
| 4566 | 1485-86 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 26. Nandana. |
| 4567 | 1486-87 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 27. Vipaya. |
| 4568 | 1487-88 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 28. Jaya. |
| 4569 | 1488-89 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 29. Mamatha. |
| 4590 | 1489-90 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 30. Dummukha. |
| 4591 | 1490-91 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 31. Hēmalamba. |
| 4592 | 1491-92 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 32. Vilamba. |
| 4593 | 1492-93 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 33. Vikārin. |
| 4594 | 1493-94 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 34. Siarvarin. |
| 4595 | 1494-95 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 35. Phava. |
| 4596 | 1495-96 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 36. Śubhakrīt. |
| 4597 | 1496-97 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 37. Sōbhana. |
| 4598 | 1497-98 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 38. Krōddhin. |
| 4599 | 1498-99 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 39. Viśvāvasta. |
| 4600 | 1499-1500 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 40. Parābhava. |
| 4601 | 1500-01 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 41. Pāvanga. |
| 4602 | 1501-02 | 2 | 2 | 2 | 2 | 2* | 2 | 2 | 2 | 2 | 2 | 2 | 42. Kūka. |
| 4603 | 1502-03 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 43. Saṃyā. |
| 4604 | 1503-04 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 44. Siddhakra. |
| 4605 | 1504-05 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 45. Virōdhakrīt. |
| 4606 | 1505-06 | 6 | 6* | 6 | 6 | 7 | 7 | 6* | 7 | 7 | 7 | 7 | 46. Paridhavin. |
| 4607 | 1506-07 | 7* | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 47. Pramādin. |
| 4608 | 1507-08 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 48. Ananda. |
| 4609 | 1508-09 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 49. Rākheṣa. |
| 4610 | 1509-10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 50. Amda. |
| 4611 | 1510-11 | 11 | 11 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 51. Piṅgala. |
| 4612 | 1511-12 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 52. Kālayukta. |
| 4613 | 1512-13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 53. Siddharthin. |
| 4614 | 1513-14 | 14 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 54. Raudra. |
| 4615 | 1514-15 | 15 | 15 | 15* | 15* | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 55. Darnadi. |
| 4616 | 1515-16 | 16 | 16 | 16 | 16 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 56. Duradabhi. |
| 4617 | 1516-17 | 17 | 17 | 17 | 17 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 57. Rudhrodgarin. |
| 4618 | 1517-18 | 18 | 18 | 18 | 18 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 58. Raktaksha. |
| 4619 | 1518-19 | 19 | 19 | 19 | 19 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 59. Kṛeṣṭha. |
| 4620 | 1519-20 | 20 | 20 | 20 | 20 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 60. Kalya. |
| 4620 | 1519-20 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | |

[illegible]

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|-----|-----|----|----|----|----|-----|----|----|----|----|-------------------|
| 4821 | 1720-21 | ... | ... | 44 | 44 | 44 | 44 | ... | 44 | 44 | 44 | 44 | 21. Sarvajit. |
| 4822 | 1721-22 | ... | ... | 45 | 45 | 45 | 45 | ... | 45 | 45 | 45 | 24 | 22. Sarvadhārīn. |
| 4823 | 1722-23 | ... | ... | 46 | 46 | 46 | 46 | ... | 46 | 46 | 46 | 26 | 23. Virādharīn. |
| 4824 | 1723-24 | ... | ... | 47 | 47 | 47 | 47 | ... | 47 | 47 | 47 | 27 | 24. Vikrīta. |
| 4825 | 1724-25 | ... | ... | 48 | 48 | 48 | 48 | ... | 48 | 48 | 48 | 28 | 25. Kham. |
| 4826 | 1725-26 | ... | ... | 49 | 49 | 49 | 49 | ... | 49 | 49 | 49 | 29 | 26. Nandana. |
| 4827 | 1726-27 | ... | ... | 50 | 50 | 50 | 50 | ... | 50 | 50 | 50 | 30 | 27. Vijaya. |
| 4828 | 1727-28 | ... | ... | 51 | 51 | 51 | 51 | ... | 51 | 51 | 51 | 31 | 28. Jaya. |
| 4829 | 1728-29 | ... | ... | 52 | 52 | 52 | 52 | ... | 52 | 52 | 52 | 32 | 29. Manmatha. |
| 4830 | 1729-30 | ... | ... | 53 | 53 | 53 | 53 | ... | 53 | 53 | 53 | 33 | 30. Durukha. |
| 4831 | 1730-31 | ... | ... | 54 | 54 | 54 | 54 | ... | 54 | 54 | 54 | 34 | 31. Hāmadamba. |
| 4832 | 1731-32 | ... | ... | 55 | 55 | 55 | 55 | ... | 55 | 55 | 55 | 35 | 32. Vilamba. |
| 4833 | 1732-33 | ... | ... | 56 | 56 | 56 | 56 | ... | 56 | 56 | 56 | 36 | 33. Vikārīn. |
| 4834 | 1733-34 | ... | ... | 57 | 57 | 57 | 57 | ... | 57 | 57 | 57 | 37 | 34. Sarvarīn. |
| 4835 | 1734-35 | ... | ... | 58 | 58 | 58 | 58 | ... | 58 | 58 | 58 | 38 | 35. Plava. |
| 4836 | 1735-36 | ... | ... | 59 | 59 | 59 | 59 | ... | 59 | 59 | 59 | 39 | 36. Subhadrī. |
| 4837 | 1736-37 | ... | ... | 60 | 60 | 60 | 60 | ... | 60 | 60 | 60 | 40 | 37. Sōbhana. |
| 4838 | 1737-38 | ... | ... | 1 | 1 | 1 | 1 | ... | 41 | 41 | 41 | 41 | 38. Krōdhīn. |
| 4839 | 1738-39 | ... | ... | 2 | 2 | 2 | 2 | ... | 42 | 42 | 42 | 42 | 39. Viśvayana. |
| 4840 | 1739-40 | ... | ... | 3 | 3 | 3 | 3 | ... | 43 | 43 | 43 | 43 | 40. Parābhava. |
| 4841 | 1740-41 | ... | ... | 4 | 4 | 4 | 4 | ... | 44 | 44 | 44 | 44 | 41. Plavaṅga. |
| 4842 | 1741-42 | ... | ... | 5 | 5 | 5 | 5 | ... | 45 | 45 | 45 | 45 | 42. Kṛāka. |
| 4843 | 1742-43 | ... | ... | 6 | 6 | 6 | 6 | ... | 46 | 46 | 46 | 46 | 43. Saumya. |
| 4844 | 1743-44 | ... | ... | 7 | 7 | 7 | 7 | ... | 47 | 47 | 47 | 47 | 44. Śādhiraṇa. |
| 4845 | 1744-45 | ... | ... | 8 | 8 | 8 | 8 | ... | 48 | 48 | 48 | 48 | 45. Viprodhārīn. |
| 4846 | 1745-46 | ... | ... | 9 | 9 | 9 | 9 | ... | 49 | 49 | 49 | 49 | 46. Paridhāvīn. |
| 4847 | 1746-47 | ... | ... | 10 | 10 | 10 | 10 | ... | 50 | 50 | 50 | 50 | 47. Pramādin. |
| 4848 | 1747-48 | ... | ... | 11 | 11 | 11 | 11 | ... | 51 | 51 | 51 | 51 | 48. Ananda. |
| 4849 | 1748-49 | ... | ... | 12 | 12 | 12 | 12 | ... | 52 | 52 | 52 | 52 | 49. Rāṣṭhaka. |
| 4850 | 1749-50 | ... | ... | 13 | 13 | 13 | 13 | ... | 53 | 53 | 53 | 53 | 50. Anala. |
| 4851 | 1750-51 | ... | ... | 14 | 14 | 14 | 14 | ... | 54 | 54 | 54 | 54 | 51. Pūgala. |
| 4852 | 1751-52 | ... | ... | 15 | 15 | 15 | 15 | ... | 55 | 55 | 55 | 55 | 52. Kālayukta. |
| 4853 | 1752-53 | ... | ... | 16 | 16 | 16 | 16 | ... | 56 | 56 | 56 | 56 | 53. Siddhārthīn. |
| 4854 | 1753-54 | ... | ... | 17 | 17 | 17 | 17 | ... | 57 | 57 | 57 | 57 | 54. Paundra. |
| 4855 | 1754-55 | ... | ... | 18 | 18 | 18 | 18 | ... | 58 | 58 | 58 | 58 | 55. Dūrmata. |
| 4856 | 1755-56 | ... | ... | 19 | 19 | 19 | 19 | ... | 59 | 59 | 59 | 59 | 56. Dandubhī. |
| 4857 | 1756-57 | ... | ... | 20 | 20 | 20 | 20 | ... | 60 | 60 | 60 | 60 | 57. Rudhōvīgarīn. |
| 4858 | 1757-58 | ... | ... | 21 | 21 | 21 | 21 | ... | 1 | 1 | 1 | 1 | 58. Rakatākala. |
| 4859 | 1758-59 | ... | ... | 22 | 22 | 22 | 22 | ... | 2 | 2 | 2 | 2 | 59. Krōdhīn. |
| 4860 | 1759-60 | ... | ... | 23 | 23 | 23 | 23 | ... | 3 | 3 | 3 | 3 | 60. Kālaya. |
| | | ... | ... | 24 | 24 | 24 | 24 | ... | 4 | 4 | 4 | 4 | |

TABLE XLII—*contd.*

| Year A.D. | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR, ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI | | | | | | | | | | | | Year A.D. | | NUMBER OF THE SA VATSARA CONNECTED WITH EACH SOLAR YEAR, ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------|---|--------------|--------------------------|--------------|----------------------|--------------|--------------------|--------------|-------------------------------|--------------|-----------------------|--------------|--------------|------|---|--------------|--------------------------|--------------|----------------------|--------------|--------------------|--------------|-------------------------------|--------------|-----------------------|--------------|--------------|----|------------------|--------------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| Expired year of Kaliyuga. | 1 | SŌRYA- S. NO MĀ. | | SŌRYA- S. WITH MĀ. | | First ARYA- S. | | Z SRYA Ordo. | | BRAHMA- S. AND S. SIND. | | SECOND ARYA- S. | | Year A.D. | 1 | SŌRYA- S. NO MĀ. | | SŌRYA- S. WITH MĀ. | | First ARYA- S. | | Z SRYA Ordo. | | BRAHMA- S. AND S. SIND. | | SECOND ARYA- S. | | Year A.D. | 1 | | | | | | | | | | | | | | | |
| | | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | | | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | | | Apparent M.S. | Mean M.S. | | | | | | | | | | | | | |
| 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | |
| 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | |
| 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | |
| 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | |
| 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | |
| 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | |
| 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | |
| 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | |
| 4915 | 1814-15 | ... | ... | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4915 | 1814-15 | ... | ... | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4915 | 1814-15 | ... | ... | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | |
| 4916 | 1815-16 | ... | ... | ... | ... | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 4916 | 1815-16 | ... | ... | ... | ... | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 4916 | 1815-16 | ... | ... | ... | ... | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | |
| 4917 | 1816-17 | ... | ... | ... | ... | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 4917 | 1816-17 | ... | ... | ... | ... | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 4917 | 1816-17 | ... | ... | ... | ... | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | |
| 4918 | 1817-18 | ... | ... | ... | ... | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 4918 | 1817-18 | ... | ... | ... | ... | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 4918 | 1817-18 | ... | ... | ... | ... | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | |
| 4919 | 1818-19 | ... | ... | ... | ... | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 4919 | 1818-19 | ... | ... | ... | ... | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 4919 | 1818-19 | ... | ... | ... | ... | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | |
| 4920 | 1819-20 | ... | ... | ... | ... | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 4920 | 1819-20 | ... | ... | ... | ... | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 4920 | 1819-20 | ... | ... | ... | ... | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | |
| | | ... | ... | ... | ... | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | | | ... | ... | ... | ... | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | | | ... | ... | ... | ... | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | | |

| Year A.D. | | NUMBER OF THE SAMVATSARA CONNECTED WITH EACH SOLAR YEAR, ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI | | | | | | | | | | | | Year A.D. | | NUMBER OF THE SA VATSARA CONNECTED WITH EACH SOLAR YEAR, ACCORDING TO THE SEVERAL SIDDHANTAS, BY REASON OF ITS CURRENCY AT APPARENT, OR AT MEAN, MĒSHA-SAMKRĀNTI | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------|---|--------------|--------------------------|--------------|----------------------|--------------|--------------------|--------------|-------------------------------|--------------|-----------------------|--------------|--------------|------|---|--------------|--------------------------|--------------|----------------------|--------------|--------------------|--------------|-------------------------------|--------------|-----------------------|--------------|--------------|----|------------------|--------------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
| Expired year of Kaliyuga. | 1 | SŌRYA- S. NO MĀ. | | SŌRYA- S. WITH MĀ. | | First ARYA- S. | | Z SRYA Ordo. | | BRAHMA- S. AND S. SIND. | | SECOND ARYA- S. | | Year A.D. | 1 | SŌRYA- S. NO MĀ. | | SŌRYA- S. WITH MĀ. | | First ARYA- S. | | Z SRYA Ordo. | | BRAHMA- S. AND S. SIND. | | SECOND ARYA- S. | | Year A.D. | 1 | | | | | | | | | | | | | | | |
| | | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | | | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | Apparent M.S. | Mean M.S. | | | Apparent M.S. | Mean M.S. | | | | | | | | | | | | | |
| 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 4601 | 1800-01 | ... | ... | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4602 | 1801-02 | ... | ... | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 4603 | 1802-03 | ... | ... | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4604 | 1803-04 | ... | ... | ... | ... | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 4905 | 1804-05 | ... | ... | ... | ... | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 4906 | 1805-06 | ... | ... | ... | ... | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4907 | 1806-07 | ... | ... | ... | ... | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | |
| 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 4908 | 1807-08 | ... | ... | ... | ... | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | |
| 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 4909 | 1808-09 | ... | ... | ... | ... | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | |
| 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 4910 | 1809-10 | ... | ... | ... | ... | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | |
| 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 4911 | 1810-11 | ... | ... | ... | ... | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | |
| 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 4912 | 1811-12 | ... | ... | ... | ... | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | |
| 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 4913 | 1812-13 | ... | ... | ... | ... | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | |
| 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 4914 | 1813-14 | ... | ... | ... | ... | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | |
| 4915 | 1814-15 | ... | ... | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4915 | 1814-15 | ... | ... | ... | ... | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 4915 | 1814-15 | ... | ... | ... | ... | 18 | | | | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |
|------|---------|-----|-----|----|----|-----|-----|-----|----|----|----|----|--------------------|
| 4041 | 1840-41 | ... | ... | 45 | 45 | 45 | 45 | ... | 26 | 26 | 26 | 26 | 21. Sarvajit. |
| 4042 | 1841-42 | ... | ... | 46 | 46 | 46* | 46* | ... | 27 | 27 | 27 | 27 | 22. Sarvadhārīn. |
| 4043 | 1842-43 | ... | ... | 47 | 47 | 47* | 48 | ... | 28 | 28 | 28 | 28 | 23. Virodhin. |
| 4044 | 1843-44 | ... | ... | 48 | 48 | 49 | 49 | ... | 29 | 29 | 29 | 29 | 24. Vīrtin. |
| 4045 | 1844-45 | ... | ... | 49 | 49 | 50 | 50 | ... | 30 | 30 | 30 | 30 | 25. Khara. |
| 4046 | 1845-46 | ... | ... | 50 | 50 | 51 | 51 | ... | 31 | 31 | 31 | 31 | 26. Nandana. |
| 4047 | 1846-47 | ... | ... | 51 | 51 | 52 | 52 | ... | 32 | 32 | 32 | 32 | 27. Vijaya. |
| 4048 | 1847-48 | ... | ... | 52 | 52 | 53 | 53 | ... | 33 | 33 | 33 | 33 | 28. Jaya. |
| 4049 | 1848-49 | ... | ... | 53 | 53 | 54 | 54 | ... | 34 | 34 | 34 | 34 | 29. Mammatha. |
| 4050 | 1849-50 | ... | ... | 54 | 54 | 55 | 55 | ... | 35 | 35 | 35 | 35 | 30. Durmukha. |
| 4051 | 1850-51 | ... | ... | 55 | 55 | 56 | 56 | ... | 36 | 36 | 36 | 36 | 31. Hēmalamba. |
| 4052 | 1851-52 | ... | ... | 56 | 56 | 57 | 57 | ... | 37 | 37 | 37 | 37 | 32. Vilāmba. |
| 4053 | 1852-53 | ... | ... | 57 | 57 | 58 | 58 | ... | 38 | 38 | 38 | 38 | 33. Vikārīn. |
| 4054 | 1853-54 | ... | ... | 58 | 58 | 59 | 59 | ... | 39 | 39 | 39 | 39 | 34. Sāvarīn. |
| 4055 | 1854-55 | ... | ... | 59 | 59 | 60 | 60 | ... | 40 | 40 | 40 | 40 | 35. Plava. |
| 4056 | 1855-56 | ... | ... | 60 | 60 | 1 | 1 | ... | 41 | 41 | 41 | 41 | 36. Subhakarī. |
| 4057 | 1856-57 | ... | ... | 1* | 1* | 2 | 2 | ... | 42 | 42 | 42 | 42 | 37. Siddhanta. |
| 4058 | 1857-58 | ... | ... | 3 | 3 | 3 | 3 | ... | 43 | 43 | 43 | 43 | 38. Krōdhin. |
| 4059 | 1858-59 | ... | ... | 4 | 4 | 4 | 4 | ... | 44 | 44 | 44 | 44 | 39. Vīrvāsan. |
| 4060 | 1859-60 | ... | ... | 5 | 5 | 5 | 5 | ... | 45 | 45 | 45 | 45 | 40. Parādhava. |
| 4061 | 1860-61 | ... | ... | 6 | 6 | 6 | 6 | ... | 46 | 46 | 46 | 46 | 41. Plavaṅga. |
| 4062 | 1861-62 | ... | ... | 7 | 7 | 7 | 7 | ... | 47 | 47 | 47 | 47 | 42. Kīlaka. |
| 4063 | 1862-63 | ... | ... | 8 | 8 | 8 | 8 | ... | 48 | 48 | 48 | 48 | 43. Saumya. |
| 4064 | 1863-64 | ... | ... | 9 | 9 | 9 | 9 | ... | 49 | 49 | 49 | 49 | 44. Siddhānta. |
| 4065 | 1864-65 | ... | ... | 10 | 10 | 10 | 10 | ... | 50 | 50 | 50 | 50 | 45. Virodhakarī. |
| 4066 | 1865-66 | ... | ... | 11 | 11 | 11 | 11 | ... | 51 | 51 | 51 | 51 | 46. Paridhāvīn. |
| 4067 | 1866-67 | ... | ... | 12 | 12 | 12 | 12 | ... | 52 | 52 | 52 | 52 | 47. Pramādin. |
| 4068 | 1867-68 | ... | ... | 13 | 13 | 13 | 13 | ... | 53 | 53 | 53 | 53 | 48. Ānanda. |
| 4069 | 1868-69 | ... | ... | 14 | 14 | 14 | 14 | ... | 54 | 54 | 54 | 54 | 49. Rākahasa. |
| 4070 | 1869-70 | ... | ... | 15 | 15 | 15 | 15 | ... | 55 | 55 | 55 | 55 | 50. Anala. |
| 4071 | 1870-71 | ... | ... | 16 | 16 | 16 | 16 | ... | 56 | 56 | 56 | 56 | 51. Pūṅgala. |
| 4072 | 1871-72 | ... | ... | 17 | 17 | 17 | 17 | ... | 57 | 57 | 57 | 57 | 52. Kādayuktā. |
| 4073 | 1872-73 | ... | ... | 18 | 18 | 18 | 18 | ... | 58 | 58 | 58 | 58 | 53. Siddhārthīn. |
| 4074 | 1873-74 | ... | ... | 19 | 19 | 19 | 19 | ... | 59 | 59 | 59 | 59 | 54. Sautā. |
| 4075 | 1874-75 | ... | ... | 20 | 20 | 20 | 20 | ... | 60 | 60 | 60 | 60 | 55. Durnatī. |
| 4076 | 1875-76 | ... | ... | 21 | 21 | 21 | 21 | ... | 1 | 1 | 1 | 1 | 56. Dandabhi. |
| 4077 | 1876-77 | ... | ... | 22 | 22 | 22 | 22 | ... | 2 | 2 | 2 | 2 | 57. Rudhīrēdgārīn. |
| 4078 | 1877-78 | ... | ... | 23 | 23 | 23 | 23 | ... | 3 | 3 | 3 | 3 | 58. Raktākṣa. |
| 4079 | 1878-79 | ... | ... | 24 | 24 | 24 | 24 | ... | 4 | 4 | 4 | 4 | 59. Krōdhana. |
| 4080 | 1879-80 | ... | ... | 25 | 25 | 25 | 25 | ... | 5 | 5 | 5 | 5 | 60. Kāṣaya. |

THE TRUE LONGITUDE OF THE SUN IN HINDU ASTRONOMY,
PART I. ĀRYA- AND SŪRYA-SIDDHANTAS.

(Previously published in *Epigraphia Indica*, Vol. XIV, pp. 1-67.)

234. The exact position of the true or apparent sun at sunrise of each civil day, taken for tabular purposes as mean sunrise, is one of the essential elements of Hindu chronography, and the exact position of the true moon is another. From these positions are calculated the beginning and end of each tithi and nakshatra, with the currency of these at sunrise. All over India for many centuries the civil day has been coupled with the true tithi current at sunrise, the nakshatra in which the true moon stands at sunrise being stated in the local almanacs and constantly mentioned in the dates of historical inscriptions. In Southern India the nakshatra was considered of such importance that from as early as the tenth century it has regularly given its name to the day. For the proper verification of historical inscription-dates, therefore, it is of the highest importance that we should know the precise position of the true sun at any moment and more especially at the moment of mean sunrise.¹

235. Now the process adopted for this purpose in "*The Indian Calendar*" (Sewell and S. B. Dikshit, 1896), though resulting in a fair approximation, did not, for critical examinations of dates, give a sufficiently close result, as I have already explained in my "*Indian Chronography*," §§ 119, 120, pp. 42-43; something more accurate was required. We want, for each of the Indian astronomical authorities separately, extremely accurate determination of the sun's true longitude each day of the year; and there is only one way to obtain this. For each day a calculation must be made of the exact equation of the sun's centre on the basis of the sun's mean anomaly, according to the Hindu method of computation. This was a formidable undertaking; but it has now been accomplished for the *First Ārya-* and *Sūrya-Siddhāntas*, and the Tables are published herewith. It is to be hoped that they are final. They are intended to fix the true longitude of the sun on any day or at any moment of the day, with an accuracy extending to the hundredth part of a second. Similar Tables for the *Siddhānta-Sirāmāṇi* are given in the next section. I give the result in degrees and parts, and in ten-thousandths of the circle. The former, converted as desired, can be adapted to any system of reckoning; the latter are for use by the *Indian Calendar* system.²

236. These calculations are, as I have stated, based purely on the Hindu system of reckoning. I have used for the sun's mean anomaly and longitude the mean position and mean motion of the sun as gathered from each *Siddhānta* separately, and have used the Hindu values of the sines for computing the amount of the equation of the centre, and thence the sun's true position. The Tables are prepared according to the *First Ārya-* and *Present Sūrya-Siddhāntas*, the latter both with and without the *bija*. The *bija* (correction), which came into general use about A.D. 1500, made no change in the length of the solar year or the number of civil days in a mahāyuga, or in the position of the sun's apsis, and therefore none in the sun's longitude whether true or mean.

237. Assuming, since these Tables are not intended for any but the initiated, that the *Indian Calendar* process of calculation, which might be termed Prof. Jacobi's first process and which has the advantage of simplicity, is known to readers of the *Epigraphia*, only one or two remarks need be made before entering on details. Since everything depends on the accuracy of the Table-entries, I must call attention to the great help which I received from M. Louis de Ries of Moscow for many months. He takes the greatest interest in Hindu astronomy, and has prepared certain Tables of his own, the publication of which has been

¹ For calculation affecting all parts of India the basis has to be mean sunrise, and this is always taken as mean sunrise at Lanka, or Ujjain, an imaginary spot on the equator on the meridian of Ujjain. E. long. 75° 46' 17".

² The *Indian Calendar* system is the system adopted by Prof. Jacobi (of Bonn) in 1838 (*Indian Antiquary*, Vol. XVII), itself founded on Largot's (*Connaissance des Temps*, 1845).

delayed by the great European war. His processes are characterized by the most painstaking endeavours to obtain extreme accuracy for every result arrived at. Filled with a similar desire, and after my calculations for the sun's exact position (in true longitude for successive 24-hour periods after the true sun's arrival at long. 0°) had been carried out for about one-third of the *Ārya-Siddhānta* year, I asked M. de Ries to calculate some of these positions of the sun by his own method, so that we might compare the results. He most kindly did so; and, when I state that our results, worked in entire independence of one another and by different methods, were found to agree in every respect down to four, and in one case even down to five, decimals of a second, I think that it may be fairly assumed that my Tables may be depended upon.

238. There is more than one reason why the *Indian Calendar* system, though yielding results very fairly approximate, requires some expansion for the purpose of exact calculation. By it we have been in the habit of computing the true moon's place both for the tithi and nakshatra by the *Sūrya-Siddhānta* data, using the same figures for finding the tithi-index, *t*, and nakshatra-index, *n*, for all dates, both for inscriptions known to belong to tracts and times when the *Ārya-Siddhānta* was the authority used by the framers of the record, as well as for those which must have been guided by almanacs calculated by the *Sūrya-Siddhānta*. The *e* of the *Indian Calendar* method, i.e. the sun's mean anomaly at any moment, is always the *Sūrya-Siddhānta* "*e*" in thousandths of the circle, and that it differs in various proportions at different times of the year from the "*e*" of the *Ārya-Siddhānta* will be apparent to anyone who compares the entries for the same day given in my new Tables XLVIII A and B, cols. 2, 3, in ten-thousandths. At the moment of Mēsha-samkrānti for instance (the first entry in each Table) the "*e*" by the *Sūrya* is 2794·0642 in ten-thousandths, and is 279 in thousandths in *Indian Calendar* reckoning; but by the *Ārya-Siddhānta* it is 2774·5577, and so for our ordinary reckoning should be stated as 277. In calculation for the tithi-index, "*t*", in ordinary work this difference has no very great effect, though of course it actually has some, and possibly may in some cases alter the value of "*t*" by one unit ($4\frac{1}{2}$ minutes); but it has greater effect when we are calculating the nakshatra, as will presently be explained. As to the difference between the two authorities in the value assigned to the sun's true longitude, "*s*", it will be seen that this varies day by day. About Day 261, i.e. the 261st period of 24 hours each measured from true Mēsha-samkrānti, the value of "*s*" is practically the same by the two authorities; about Day 150 the *Ārya* "*s*" is about 3' 36" ahead of the *Sūrya* "*s*." The difference increases and diminishes regularly throughout the year.

The principal reasons for this difference are that by the *Sūrya-Siddhānta* the position of the sun's perigee-point is different from that assumed by the *Ārya-Siddhānta*, and that there is a difference in the two-year lengths.

239. I have stated above that this difference has only a very slight effect as regards the value of the tithi-index; its effect on the ordinary calculation of the nakshatra and lagnas must now be noticed. In so doing we take first the nakshatra and note the process by which those who have used the *Indian Calendar* have hitherto calculated its index.

Our method of computing the sun's true longitude, "*s*", by the system of the *Indian Calendar* has been to take the "*e*" found for the desired moment, that is to say, the value, in thousandths of the circle, of the sun's mean anomaly according to the *Sūrya-Siddhānta*, making this serve for both Siddhāntas;—to multiply this "*e*" by ten to get its approximate value in ten-thousandths;—to add to it a figure, 7207, representing the longitude of the sun's perigee-point (taken as 7140·3 by the *Sūrya-Siddhānta*) in A.D. 1100 plus an addition representing the sun's greatest equation of the centre (roughly 60·4, actually by the *Sūrya-Siddhānta* 69·4244)—an addition which is rendered necessary by the construction of the Tables in order to avoid the necessity for sometimes adding and sometimes subtracting the equation of the centre¹;—to deduct from the result the figure representing this equation;—and so to obtain the sun's true

¹ See *Indian Calendar*, §§ 107, 108; pp. 60, 61.

longitude, " s ". The tithi-index, " t "¹ having been already found, we add " s " to " t " and find the nakshatra-index " n " or the longitude of the true moon; this index shews in which nakshatra she stands at the moment. The result is an approximation, but it is not close enough. If we are working for an *Arya-Siddhanta* date, we have used *Surya-Siddhanta* values (which differ slightly), and we have arrived at the value of " s " in part by multiplying by 10 a value obtained in thousandths so as to be able to apply it to the other value, that of the moon, which has been obtained in ten-thousandths of the circle. This multiplication by ten creates a possibility of error not inconsiderable. Thus, if we have, in thousandths, the figure " s " = 623, this may stand for any value in ten-thousandths between 6225 and 6235, and may lead to a miscalculation amounting to anything under 10 units in our estimate of the nakshatra-index " n " and 10 units represent in time-valuation 30 minutes.

240. All these possibilities of error are entirely removed by the present Tables. The exact value of " s " by either *Siddhanta* is easily found—a value which we know to be absolutely correct—and when we add this " s " to the already found " t " we know that the result gives the correct nakshatra-index; or at least that the only possibility of error lies in the value " t " found for the tithi.

241. These Tables will also be found very useful for calculating the lagna accurately. Hitherto our process for finding, in working for the lagna, the value of the sun's true longitude, " s ", at mean sunrise of the day concerned has been the same as the not quite perfect process for finding the nakshatra. The present Tables give the exactly accurate " s " by either *Siddhanta*, and they give it in degrees, etc., thereby simplifying the calculation.

EXPLANATION OF THE TABLES.

242. Table *XLIII*. The details were worked out with great care by M. L. de Rive from the respective lengths of the sidereal solar year, i.e. the time taken by the true sun to travel from 0° to 0° , according to the several Indian authorities.

Table *XLIV* gives the sun's mean motion per day of 24 hours, and per hour, minute and second, for use in calculation. It is exact for the *Arya-Siddhanta*, and may be used with care for other authorities, having regard to the footnote.

Table *XLIV A*. See the heading. It explains itself.

Table *XLV A* is for use in calculations. Every valuation given in the main Tables *XLVIII A* and *B* in ten-thousandths of the circle was made by it.

Table *XLV B* is the reverse of *XLV A*.

Table *XLVI* is a revised nakshatra-Table, shewing the exact ending points of each.

Table *XLVII* is very important, being a revised Table of sines and equations of the sun's centre, given in full after particularly careful calculation. Its preparation is described below, §§ 249-253. The supplementary Table *XLVII A* gives, for close work, very full details of the exact equations according to authorities other than the *First Arya-Siddhanta*; and of the differences, in seconds per minute of mean anomaly-arc, between the consecutive base-equations. Table *XLVII*, cols. 9, 10, may also be used for the *Brahma-Siddhanta*, but not Table *XLVII A*.

Tables *XLVIII A* and *XLVIII B* are the main working Tables, shewing, by the *First Arya*- and *Present Surya-Siddhantas* (with or without the bija), the precise value of the sun's true longitude (s) and equation of the centre at each interval of 24 hours measured from true Masha-

¹ The tithi-index, " t ", gives the distance of true moon from true sun, i.e., shews the moon's phase or her true place with reference to the true sun. When this is added to the true sun's longitude, we have the true moon's place in the heavens, " n ", or the required nakshatra-index.

samkrānti, the moment when the true sun arrives each year at celestial longitude 0° ; as well as the sun's mean anomaly and mean longitude. There was no possibility of framing a Table which should give these particulars for mean sunrise of each day, the primary requirement for the verification of Indian dates, because the moment of true Mēsha-samkrānti varies each year and the starting-point had to be from that moment. These two Tables therefore give the consecutive 24-hour positions of the mean and true sun after that moment.

Tables XLIX and L enable us to find the sun's true longitude at mean sunrise; the former giving for each group of days the sun's true motion per hour, and the latter giving his mean motion per minute. It is not necessary for general purposes to give his true motion per minute; if required, this can always be obtained by dividing by 60 the details of Table XLIX for one hour of the day.

243. Tables XLVIII to L are used in the following way, when we desire to find the "s" for mean sunrise. Say that Mēsha-samkrānti occurred in the year for which we are working at $12^h 15^m$ after mean sunrise. Then for every day of that year Table XLVIII-A or -B gives us his true longitude, "s", at $12^h 15^m$ after mean sunrise; and to obtain the "s" at mean sunrise on the day in question we have to deduct the sun's true motion during 12^h and 15^m . We do this by Tables XLIX and L, and so get the exact "s" for mean sunrise on the day in question.

Table XLIX for hours is exactly correct for the *Ārya-Siddhānta*. When used for the *Sūrya-Siddhānta*, there may be an error amounting, at the time of year when there is the greatest difference between the two authorities, to about one-third of a second per hour or about seven seconds per day. If anyone desires to be absolutely exact by the *Sūrya-Siddhānta*, he should calculate the true sun's motion during the hours and minutes of the day in question by observing in Table XLVIII-B the consecutive 24-hour positions, "s" of the sun given in the Table for (i) the day in question and (ii) the previous day, and divide the difference by 24 for each hour's, and this result by 60 for each minute's, true motion. Even this, of course, is not mathematically exact, since the true motion of the sun varies from hour to hour; but it is quite accurate enough.

244. The calculation for the true longitude of the sun each day was made by ascertaining his mean anomaly and then using the sine-Table as finally prepared (Table XLVII) for finding the equation of the centre. The starting point for the year is the value of his mean anomaly at the moment of true Mēsha-samkrānti. This had to be computed with great care. The problem is fully discussed below, §§ 254-255.

245. To obtain a correct value of the sun's mean longitude at sunrise of any day, take the value given in Table XLVIII-A or B, as the case may be, cols. 4, 5, and deduct for the intervening hours and minutes (§ 243, para. 1) the quantities shown in Table XLIV for the sun's mean motion. Greater accuracy even than this can be obtained by the use of Table XLIII.

246. I do not enter very fully into the difference in the sun's true longitude brought about, according to the *Sūrya-Siddhānta*, by the shift in the apsis of the sun's orbit, because this seems so slight that it may be ignored. It would amount to about $1'$ in the last 1500 years (see below, s. 254, ii).

USE OF THE TABLES. RULES.

247. That the use of the Tables may be thoroughly understood, I append a few rules of work and examples.

(i) *The nakshatra*.—Work by the usual Indian Calendar process for finding "t" the tithi-index at mean sunrise of the day in question.¹ Note the serial number of the civil day, ignoring altogether the day of the Hindu solar month. Deduct from this number the serial number of the day on which Mēsha-samkrānti occurred (Table I, or any of the similar general

¹ Examples are given below, viz. in "the *Siddhānta-Śicōmāṣī*" section, Example 4 (p. 145), and in the section "First *Ārya-Siddhānta*, true system", Examples 4, 5 (pp. 239, 240).

working Tables below, col. 13). The result is the number of the day, or 24-hour period, referred to in col. 1 of the new Tables XLVIII A and B. Remembering to use the proper Table for the *Siddhānta* concerned, turn to this number in either of those Tables. Against it in col. 9 will be found the correct value of the sun's longitude, " s " on that day at a moment as many hours and minutes after mean sunrise as elapsed between mean sunrise and the moment of Māsha-samkrānti at the beginning of the solar year (Table I or other general Tables, col. 17). Turn to Table XLIX for hours on the day in question and to Table L for minutes, and deduct from the " s " so obtained the values of the sun's motion during those hours and minutes (above, § 243). This gives the sun's exact true longitude at mean sunrise of the day in question. $s + t = n$, the nakshatra-index. For exact ending points of nakshatras, i.e. the points when the true moon passes out of each, consult Table XLVI. (Table VIII of the *Indian Calendar* or Table LXVIII below suffices except in very close cases.) Properly worked, the " s " so found yields the correct longitude of the true sun within the hundredth part of a second.

(ii) *The lithi*.—[This may be examined by the new Tables, though probably it will not be liable to change, or at any rate not to any change greater than one unit. Until some new Tables are published, we work for the moon's place by Prof. Jacobi's fixtures, and accept them.] The serial number of the day, or 24-hour period, being found as above, note against it in Table XLVIII A or B, cols. 2, 3, the value of the sun's mean anomaly; and for the intervening hours and minutes deduct the sun's mean motion as given in Table XLIV, observing the remarks in the footnote to that Table. This gives the sun's mean anomaly at mean sunrise of the day in question in ten-thousandths of the circle. Take the value in thousandths of the circle by removing the decimal point one place to the left. Refer to Table VII, *Indian Calendar*, or Table LXVII below, and the corresponding auxiliary Table below each of these for correcting the "equation c " of the calculation, if it does not seem necessary to work with greater exactness than by use of units of about $4\frac{1}{2}$ minutes.

We can find the equation more accurately as follows:—It has been noted in § 239 that, in order that "equation c " in the a, b, c system may always be additive, the quantity 60.4 was taken from " a " (the mean moon's distance from mean sun) and added to the equation of the centre. Hence we shall have the exact "equation c ", if we deduct from 60.4 the amount of the equation (given in the new Table), when it is *plus* (+), and add to 60.4 the amount of the equation, when it is *minus* (−); the signs are given in the heading of cols. 6, 7, Tables XLVIII A and B.

The equation can also be obtained with quite sufficient approximation by noting the difference between the equation of the day and the equation of the previous day (cols. 6, 7), dividing this difference by 24, and applying to the equation of the day the amount proportionate to the hours intervening from mean sunrise (see example given below, § 248, D.).

(iii) *The lagna*.—To find the time of rising of the named sign on the day concerned, calculate the " s " for mean sunrise as above explained, but this time use degrees, minutes and seconds (col. 8 of either Table XLVIII A or B). Table XXII, *Indian Chronography*, gives the beginning and ending points of the named sign. Adding to these 360° if necessary, deduct from their value the value of s at mean sunrise. The result shows the distance from the sun at mean sunrise of the beginning and ending points of the sign. Multiply the degrees by 4 for minutes, and the minutes by 4 for seconds of time. The result gives the times of rising of the beginning and ending points of the named sign.

EXAMPLES OF WORK.

248. Given an inscription date to be examined, with the details Śaka 1412, Friday, the day of Uttara Bhādrapada, Chaitra kṛishṇa 12, Mithuna lagna.

We first examine the date according to the *Indian Calendar* system and Tables ; afterwards verifying, by the new Tables herein given, some of its important elements, such as the sun's mean anomaly, " *c* " the sun's equation of the centre and the value of " equation *c* ", and the sun's true longitude, " *s* " at mean sunrise of the day of the date.

[Let it be remembered that Table I of the *Indian Calendar*, so far as regards calculation for the lunar tithi, uses the postulates of the *Sārya-Siddhānta* to obtain results for both the *Ārya* and *Sārya-Siddhānta*—a course which is sufficiently accurate in most cases but not so in close cases. Its advantage is its simplicity.]

The year in Śaka 1412 expired, or A. D. 1490-91. The day on which the lunar tithi Chaitra kṛishṇa 12 expires will be about 25 days later than the day on which Chaitra śukla 1 expired. If found not to be so, calculate for a lesser or greater number of days.

| | Day. | Week-day. | a. | b. | c. |
|------------------------------------|------|-----------|------|-----|-----|
| (Table I (Ind. Cal.), cols. 19-25) | 81 | 2 | 75 | 430 | 264 |
| (Table IV, for 25 days) | 25 | 4 | 8466 | 907 | 68 |
| | 106 | 6 | 8541 | 337 | 332 |
| (Table VI. Equation <i>b</i>) | | | 260 | | |
| (Table VII. Equation <i>c</i>) | | | 7 | | |

(Table VIII). Tithi-index (*t*)=8808=Chait. kṛ. 12.

The day, measured from Jan. 1, was 106, which (Table IX) was 16 April 1490. The week-day, 6, was Friday. At mean sunrise that day the current tithi was Chaitra kṛishṇa 12. The nakshatra in which the true moon stood at that moment must now be found, also by the *Indian Calendar* rule.

| | |
|--|--------|
| $c \times 10$ | 3320 |
| Constant (Ind. Cal., §§ 135, 156) + 7207 | |
| | 527 |
| Less equation <i>c</i> (above) | -7 |
| Sun's true long., <i>s</i> | 520 |
| Tithi-index, <i>t</i> (above) | + 8808 |
| Nakshatra-index, <i>n</i> | 9328 |

With this value of *n* Table VIII shows that the true moon stood in the division of the heavens called " Uttara Bhādrapadā " : the date therefore was perfectly sound.

It will now be shown how the elements of the date may be more closely verified ; and in the end it will be seen that according to the *Ārya-Siddhānta* the nakshatra-index was really 9322, while by the *Sārya-Siddhānta* it was 9335. Though the differences here are not of great importance, it is manifest that in a close case they would be so, having the effect of placing the moon in a different nakshatra or of altering the number of the tithi current at sunrise, etc. The details of a date require careful examination whenever any final index is found to be close to the border-line between two tithis or two nakshatras or two signs of the zodiac.

A. *Elements of the same date. " c " eqn. c, and " s " verified by the present Tables.* (i) *The Ārya-Siddhānta.* Before entering on this verification it is advisable to work out the details of the date by the special *Ārya-Siddhānta True System* Tables below (Tables LXXI-LXXV).

| | Day. | Week-day. | a. | b. | c. |
|--------------------------|------|-----------|-----------|----------|----------|
| (Table LXI, cols. 19-25) | 81 | (2) | 63·8714 | 433·0553 | 262·5194 |
| (Table LXIV, 25 days) | 25 | (4) | 8465·7968 | 907·2906 | 68·4446 |
| | 106 | (6) | 8529·6682 | 340·3459 | 330·9640 |
| (Table LXVIA, Eqn. b) | | | 256·6185 | | |
| (Table LXVIA, Eqn. c) | | | 7·5676 | | |

Table LXVIII. Tithi-index (t) . . . 8793·8543 = Chaitra kr. 12.

For the nakshatra—

(Above) $a \times 10$. . . 3309·6400

Constant . . . + 7226·3542

535·9942

Eqn. c . . . - 7·5676

Sun's true long., (s) . . . 528·4266

Tithi-index (t), above . . . + 8793·8543

Nakshatra-index (n) . . . 9322·2809

A close examination of the results thus found, for the sun's mean anom., his true long., and the solar equation of the centre, can be made by the present Tables (XLVIA to L) thus—

The day of the date was, serially, 106 (i.e. measured from January 1st). Table LXI, cols.

Sun's mean anom., c .

13-17, shows that true Mesha-samkrānti took place in the given year on Day 86 at 10^h 55^m after mean sunrise, 106—86=20.

Turning to the entry for Day 20 (Table XLVIA, col. 1) it is seen (col. 3) that at 10^h 55^m after mean sunrise the sun's mean anom., c , was 3322·1148. Deduct from this the sun's mean motion in 10^h 55^m by Table XLIV, viz. for 10^h 11·4074, and for 55^m 1·0457, total 12·4531. Result for mean sunrise on Day 20, c = 3309·6617, or, as expressed in thousandths of circle instead of ten-thousandths, c = 330·9662.¹

Table XLVIA, col. 7, shows that at 10^h 55^m after mean sunrise on Day 20 the

Sun's equation of centre and
"eqn. c ".

equation of the sun's centre was 51·8993. On the previous day, i.e. exactly 24 hours earlier, it had been 52·3832. The 24-hour difference, therefore, was 0·4836. A 24th part of this is 0·02015.

Taking 10^h 55^m as 11^h, which will be sufficiently close, we have the difference for 11^h (0·02015 \times 11 =) 0·2216. 51·8996 + 0·2216 = 52·1212. This was the actual equation of the sun's centre at mean sunrise on the day of the date. In our method of calculation by the general Tables "equation c " is the amount of the sun's greatest equation of the centre less the actual equation. Here, the sun's greatest equation by the *Ārya-Siddhānta* being 59·6875, this amount less the actual equation, 52·1212, gives us "eqn. c " = 7·5663.²

Table XLVIA, col. 9, shows that at 10^h 55^m after mean sunrise on Day 20 the sun's

Sun's true long., s .

true longitude " s " was 540·6811 in ten-thousandths of the circle. Deducting from this the sun's true motion on Day 20

(Table XLIX, col. 6,) for 10^h, viz. 11·2059, and for 55 minutes (mean motion, Table I) 1·0457, total 12·2516, we have for the sun's true long., " s " at mean sunrise, 528·4295.³ If, desiring still greater accuracy, we had calculated for the sun's true motion in those 55^m instead of utilizing Table I which gives his mean motion in minutes, we should have found the result s = 528·4483.

¹ As against 330·9640 found by the general verification work carried out before.

² As against 7·5676 by the other process.

³ As against 528·4266.

Another method for finding the value of " s " (when the value of the sun's mean anom. " c " and of the actual equation of the sun's centre are known) is the following. The sun's true long. " s " always = the long. of his perigee-point *plus* his mean anom. " c " *plus* or *minus* the actual equation of the centre. The long. of perigee-point according to the *Ārya-Siddhānta* is always 7166·6, in ten-thousandths of the circle. In the present case we have found " c " = 3309·6617, and the sun's equation (*plus*) 52·1212. Adding these three together and discarding one whole revolution (10,000) we have as result the sun's true long., " s " = 528·4405.

B. *The same elements of the date verified by the present Tables. (ii) The Sūrya-Siddhānta.*

The general results found by calculation by the ordinary process of the *Indian Calendar* have been given above in whole numbers. The indices found for mean sunrise on the day of the date were sun's mean anom., " c " = 332, "equation c " = 7, and sun's true long., " s " = 520. [Tables for the *Sūrya-Siddhānta* based on circle-measurement and enabling calculation to be made with several places of decimals have not yet been prepared; but the work can be carried out by Prof. Jacobi's Tables in Vol. I of the *Epigraphia-Indica*, which are given in degrees, etc., the results being translated into circle-measurement by Table XLVA below.]

For verification of the results by the *Sūrya-Siddhānta* for the elements " c ", "eqn. c ", and " s " Table XLVIII B is to be used just as Table XLVIII A is used for the *Ārya-Siddhānta*. Table I, *Indian Calendar*, shews that the moment of true Mēsha-saṁkrānti in the given year was 12^h 44^m after mean sunrise on Day 86 (after Jan. 1st). The day of the date was 106, and was 20 days after the day of true Mēsha-saṁkrānti. Table XLVIII B gives us (col. 3) for the value of " c " at 12^h 44^m after mean sunrise on Day 20 the figure 3341·6212 in ten-thousandths of circle. Deduct (Table XLIV) the sun's mean motion during 12 hours, 13·6889, and, for the same during 44^m, 0·8365, total 14·5254. Result, " c " at mean sunrise on the given day, = 3327·0958, or in thousandths of circle 332·7096.

Table XLVIII B, col. 7, shews that on Day 20 at 12^h 44^m after mean sunrise the sun's equation of the centre was 52·3475. On the previous day it had been at the same hour, 52·8500. The 24-hour difference was 0·5025, the average diff. per hour being 0·0209. Not to be tediously critical we take 12^h 44^m as 13 hours, and obtain the difference for 13 hours as 0·2722. This added to 52·3475 gives us for the sun's equation at mean sunrise 52·6197. This was the actual equation. The greatest equation of the centre by the *Sūrya-Siddhānta* is 60·4244. This less 52·6197 gives us the value of "eqn. c " as 7·8047.

From Table XLVIII B it is also found (col. 9) that at 12^h 44^m after mean sunrise on Day 20 (after true Mēsha-saṁkrānti) the sun's true longitude was 540·5000 in ten-thousandths of circle. Deducting from this, by Tables XLIX and L, the sun's true motion on that day for 12^h and 44^m, viz. 13·4471 and 0·8365, total 14·2836, it is determined that the sun's true longitude at mean sunrise of the given day was 526·2164. [As shewn above a still more accurate result can be obtained by calculation for true motion in 44^m instead of for mean motion by Table L; but there is not much to be gained by enlarging on this here.]

Worked by the second process, described above in the section relating to the *Ārya-Siddhānta* for finding the sun's true longitude the figures are —

| | |
|---|-----------|
| Day 20. ☉'s mean anom. " c " (<i>above</i>) | 3327·0958 |
| <i>Sūrya-Siddh.</i> Long. of ☉'s perigee-point ¹ | 7146·5313 |
| ☉'s equation of the centre (<i>above</i>) | 52·6197 |
| ☉'s true long., " s " | 526·2468 |

¹ This was its value in A.D. 1400 (*see* § 254, *ii*, *below*). I have not thought it necessary here to take notice of the change in position of the point of the line of apsides which took place between A.D. 1400 (the base-year of Table XLVIII B) and 1490, the year of the date under examination. The figure given, 7146·5313, is, in ten-thousandths of the circle, the longitude of the sun's perigee-point in A.D. 1400. In A.D. 1490 it was really 7146·6119.

If now we take these results in thousandths of the circle instead of ten-thousandths and in whole numbers, viz. " c " = 333, "equ. c " = 8, " s " = 520, and substitute them for the equivalent figures in the calculation made by the *Indian Calendar* system at the beginning of this section, it will be seen that by the *Sūrya-Siddhānta* the nakshatra-index, n , should be 9335 instead of 9328.

C. The Yōga. By either *Siddhānta*.—The formula for this is $2s+t$, and, as the value of " s " has been correctly found by the above process, no further remark is necessary.

D. The lagna. (i) By the *Ārya-Siddhānta*.—For this we have to find the correct value of " s " at mean sunrise in degrees, etc. By Table XLVIII, col. 8, the " s " for the day in our example above was $19^{\circ} 27' 52'' \cdot 27$. Deduct (Table XLIX, L) for, on Day 20, 10 hours $24' 12'' \cdot 29$, and for 55 minutes $2' 15'' \cdot 52$, total $26' 27'' \cdot 81$. Then the " s " for mean sunrise was $19^{\circ} 1' 24'' \cdot 46$. This was the true sun's longitude at that moment on the meridian of Ujjain. The given lagna was the sign Mithuna. The first point of this is 60° , the last 90° . We take the " s " as 19° , which is sufficiently exact. $60^{\circ} - 19^{\circ} = 41^{\circ}$ and $90^{\circ} - 19^{\circ} = 71^{\circ}$. $41 \times 4 = 164^m$, or $2^h 44^m$. $(90^{\circ} - 19^{\circ}) \times 4 = 284^m$, or $4^h 44^m$. The first point of Mithuna was 41° distant from the true sun at the moment of mean sunrise, the last point 71° . Mithuna was lagna between $2^h 44^m$ and $4^h 44^m$ after mean sunrise on the given day.

(ii) By the *Sūrya-Siddhānta*. " s " = (Table XLVIII, B) $19^{\circ} 27' 28'' \cdot 80$. Deduct for 12 hours (Table XLIX, L) $29' 2'' \cdot 74$ and for 44 minutes $1' 48'' \cdot 42$, total $30' 51'' \cdot 16$. Remainder, or " s " for sunrise, $18^{\circ} 56' 37'' \cdot 64$. We may call this 19° , and come to the same result as in the former case. The lagna of Mithuna really began twelve seconds later.

(iii) By the *Indian Calendar* process, and for both *Siddhāntas*.—Here " s " was found to be in ten-thousandths, 520. Converted by Table VIII, B , this = $18^{\circ} 45'$. This was the sun's true longitude at mean sunrise. The difference between the actual time of the lagna of Mithuna and that found the *Indian Calendar* is slight.

More accurately worked, the first point of Mithuna was lagna by the *Ārya-Siddhānta* at $2^h 43^m 56^s$, by the *Sūrya-Siddhānta* $2^h 44^m 16^s$, and by the *Indian Calendar* $2^h 45^m$, after mean sunrise on the day in question.

CONSTRUCTION OF THE TABLES.

A detailed explanation is here given of the construction of the principal Tables, in order to satisfy experts as to their accuracy.

249. *The Hindu Sine-Table.*—The *Sūrya-Siddhānta* (ii, 34) gives in minutes the sines of a series of angles, each separated from the other by $3^{\circ} 45'$, twenty-four of these completing the quarter-circle of 90° . These values stand, so far as I can ascertain, for all Indian authorities except the *Brahma-Siddhānta*, which assumes different sine-values. There is no need here to discuss their exact accuracy, as I am concerned solely with chronography as the handmaid of history, and have nothing whatever to do with the casting of horoscopes or any other branch of astrology. The sines, as used in calculations by authorities other than the *Brahma-Siddhānta*, are given in Table XLVII, col. 3, and the differences between them, in minutes, in col. 4. For astronomical purposes the several angles are angles of a planet's mean anomaly, and are so applied to the mean anomaly of both sun and moon.

250. *The equation of the centre.*—For the preparation of the sine and equation Table (XLVII) the equation of the sun's centre for each base-angle of anomaly has been calculated from its sine-value by the proper formula for each *Siddhānta*, the calculation being carried to nine

decimals of a second in order to insure absolute accuracy for the tabulated two decimals. The details for the *First Ārya-Siddhānta* (Table XLVII, cols. 5, 6) are complete in themselves; details for the other authorities are given in full in a supplementary Table (XLVIII). Table XLVII differs a little, but only in one or two places, from Jacobi's Table XXIV (*Epig. Ind.* I, 459); I have, however, thought it advisable to record two decimals of seconds in all cases.

251. *Equation of centre*.—In Hindu astronomy the sun is treated as a planet, and in all planetary movement a fundamental principle (Jacobi, *Epig. Ind.* I, 441) is contained in the proportion—sin. equation : sin. mean anomaly :: minutes in the epicycle : minutes in the orbit. The minutes in the sin. anomaly are given in Table XLVII; the minutes in the epicycle are ascertained from statements made in each *Siddhānta*; the minutes in the orbit of 360° are always 21600'. The formula then for all authorities, a being the angle of mean anomaly, is :

$$\text{Equation centre}^1 = \frac{\text{minutes in epicycle}}{21600'} \times \sin. a.$$

252 A. The *First Ārya-Siddhānta* gives for the dimension of the epicycle $13^\circ 30'$ or $810'$. Hence by that authority :

$$\text{Equation centre} = \frac{810}{21600} \sin. a = \frac{3}{80} \sin. a.$$

Since there are $3^\circ 45'$ between each base-angle, the difference in minutes between each is 225', and the measure of first or average difference of equation for each intermediate minute of anomaly is the difference between two consecutive equations divided by 225. Taken in seconds, this difference is given in col. 6. Multiply the minutes of difference between the base-angle and the given anomaly-angle by the amount given in col. 6, and, taking the result in seconds, apply it to the base-equation, and you have the correct equation for the given anomaly-angle.

For an example take the 2nd and 3rd sines. The 2nd sine, i.e. of anomaly-angle $7^\circ 30'$, is 449'. Multiply by 3 and divide by 80. Result $0^\circ 16' 50''\cdot 25$.

The 3rd sine, of anomaly $11^\circ 15'$, is 671'. Multiply by 3 and divide by 80. Result $0^\circ 25' 9''\cdot 75$.

The difference between the two results is $8' 19''\cdot 50$. This is the total difference in 225' which is the difference between the two anomaly-angles. $8' 19''\cdot 50$ divided by 225 gives for each minute of angle the increment $2''\cdot 22$.

B. *Equation of the centre by the Sūrya-Siddhānta*.—This calculation is made on the same fundamental principle.

The *Sūrya-Siddhānta* (cf. Jacobi, above, I, 441) assumes a contraction of the epicycle amounting to $20'$ at the end of each of the odd quadrants. If this contraction at any point is called q , we have $q : 20' :: \sin. a : \sin. 90^\circ$. $\therefore q = 20 \frac{\sin. a}{\sin. 90^\circ}$. $\sin. 90^\circ = 3438'$ (Table XLVII).

Hence $q = \frac{20'}{3438'} \sin. a$. The *Sūrya Siddhānta* gives for the dimension of the epicycle 14° .

Hence the formula for the equation without the contraction would be $\frac{14'}{360'} \sin. a$. With the

contraction it is $\frac{14'}{360'} \sin. a - \frac{20'}{3438'} \times \frac{20'}{21600'} \sin.^2 a$; or, finally $\frac{14}{360} \sin. a - \frac{\sin.^2 a}{3713040}$.

The best authorities agree that this is the correct formula.

¹ When an angle is very small, as is the case with even the greatest of the equation-angles, which is only about $2^\circ 10'$, the sine is taken to be equal to the arc. Hence the presumed equality in the text of "sin. equation" and "equation centre." Table XLVII shows that the sine of $3^\circ 45'$ is 225', the same as the arc. The sine of 1° is 60', also the same as the arc.

Each equation for the several base angles has been calculated by this formula and fully worked out for nine decimals of a second. The results are given in full in Table XLVIA, col. 7, and in abbreviated form in Table XLVII, col. 7. The difference in equation per minute of anomaly-arc has been calculated by dividing the difference between consecutive base-equations in minutes by 225, and taking the result in seconds. This is tabulated in full in Table XLVIA, col. 8, and in abbreviated form in Table XLVII, col. 8.

253 C. *Equation of the centre by the Second Ārya-Siddhānta and Siddhānta-Sirōmaṇi.*—The same fundamental principle holds good. The epicycle is (*Epig. Ind. I, 341*) $13^{\circ} 40'$ or $820'$. There is no contraction. Minutes in the orbit, 21600'. Hence the equation is

$$\frac{820}{21600} \sin. a, \text{ or } \frac{41}{1080} \sin. a. \text{ The entries are made in abbreviated form in Table XLVII,}$$

cols. 9, 10, and in full in Table XLVIA, cols. 9, 10.

254. *The sun's mean anomaly, and the starting-point for its valuation.*—The sun's daily mean motion, i.e. his mean motion in 24 hours, is given according to the several Hindu authorities in Table XLIII, so that, given his exact mean place at the moment of true Mēsha-saṁkrānti when the true sun was at 0° , his mean position at the end of every 24-hour period is obtained by simple addition. We must, therefore, fix with great care the value of his mean anomaly when the true sun was at 0° .

(i) *By the First Ārya Siddhānta.*—S. B. Dikshit's valuation of the equation by this *Siddhānta*, $2^{\circ} 6' 59'' 9421$, was a trifle too great. Dr. Schram's, $2^{\circ} 6' 57'' 323495$, is exact down to the fifth decimal. M. de Ries with almost painful accuracy has carried it as far as sixteen decimals of a second. Tested by the sine table, his valuation is found exact. The equation (I give nine decimals of a second, the amount which I have generally used in these calculations) is $+ 2^{\circ} 6' 57'' 323494885$, or, in 10,000ths of the circle, 58.775644170 . This is correct for the corresponding mean longitude value $357^{\circ} 53' 2'' 676505115$, or $357^{\circ} 53' 044608419$, or in 10,000ths of circle, 9941.224355830 , the two added together amounting to exactly 360° . Thus, the perigee-point of the orbit being by this *Siddhānta* fixed at 258° , or, in 10,000ths of the circle, 7166.6 , we have found the sun's mean anomaly at true Mēsha-saṁkrānti to have been $99^{\circ} 53' 2'' 676505115$ or $90^{\circ} 53' 044608419$, or in ten-thousandths of the circle, 2774.557680163 (i.e. $9941.224355830 - 7166.6$). This then is our starting-point for cols. 2, 3, 4, 5, of Table XLVIA.

(ii) *By the Present Śūrya Siddhānta.*—In this case we have to deal with an authority which postulates a slight movement in the line of apsides of the sun's orbit, the apogee and perigee-points moving eastwards at the rate of $0''.1161$ per ann.; and before working for a correct valuation of the sun's mean anomaly at true Mēsha-saṁkrānti in any year, we have first to decide which year to select as base of operations. I have chosen the year K. Y. 4500 or A.D. 1399-1400, roughly A.D. 1400, for reasons which follow. The period covered by Indian Epigraphy, the historical period, that is, of Indian History, may be taken as the period K.Y. 3500 to 5000, A.D. 400 to 1900, or the last 1500 years, the bulk of the inscriptions belonging to the last millennium K.Y. 4000 to 5000 or A.D. 900 to 1900. I take the central year of this millennium as my base. In K.Y. 4000 the perigee-point was at $257^{\circ} 15' 32''.4$, and in K.Y. 5000 it was at $257^{\circ} 17' 28''.5$. Hence in K.Y. 4500, say, A.D. 400, it was $257^{\circ} 16' 30''.45$, or, in 10,000ths of the circle, 7146.53125 .¹ The difference in the sun's equation of the centre and true longitude, caused by this shift of the apsin, is exceedingly small and may well be ignored.

For we are concerned only with the period A.D. 400 to 1900; and calculations by the equation-table on the value of the sun's mean anomaly at the beginning of the Hindu solar

¹ Actually, for nine decimals, 7146.531250000 .

year A.D. 400-01 and at the beginning of A.D. 1900-01, allowing for the shift of the perigee-point, proves that the total difference in the equation in the whole period of 1500 years was $1^{\circ}0739$. This constitutes also the total difference in the sun's true longitude, which is his mean longitude \pm the equation, the mean longitude remaining the same whatever may be the shift in the line of apsides.

To assist those interested, however, I append a Table showing the cumulative change of position of the apsidal points.

The annual shift is a forward one, and, as the longitude of perigee increases, so the mean anomaly decreases. Hence for years earlier than K.Y. 4500, A.D. 1400, the amounts entered in col. 3 must be added to, and for years later deducted from, the sun's mean anomaly as found by calculation.

Change of position of sun's apsidal points according to the Present Sārya-Siddhānta.

| No. of Years. | Change. | | No. of Years. | Change. | | No. of Years. | Change. | |
|---------------|---------|----------------------|---------------|---------|----------------------|---------------|---------|----------------------|
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| | " | 10,000ths of circle. | | " | 10,000ths of circle. | | " | 10,000ths of circle. |
| 1 | 0.1161 | 0.0009 | 10 | 1.161 | 0.0090 | 100 | 0 11.61 | 0.0896 |
| 2 | 0.2322 | 0.0018 | 20 | 2.322 | 0.0179 | 200 | 0 23.22 | 0.1792 |
| 3 | 0.3483 | 0.0027 | 30 | 3.483 | 0.0269 | 300 | 0 34.83 | 0.2687 |
| 4 | 0.4644 | 0.0036 | 40 | 4.644 | 0.0358 | 400 | 0 46.44 | 0.3583 |
| 5 | 0.5805 | 0.0045 | 50 | 5.805 | 0.0448 | 500 | 0 58.05 | 0.4479 |
| 6 | 0.6966 | 0.0054 | 60 | 6.966 | 0.0537 | 600 | 1 9.66 | 0.5375 |
| 7 | 0.8127 | 0.0063 | 70 | 8.127 | 0.0627 | 700 | 1 21.27 | 0.6271 |
| 8 | 0.9288 | 0.0072 | 80 | 9.288 | 0.0717 | 800 | 1 32.88 | 0.7167 |
| 9 | 1.0449 | 0.0081 | 90 | 10.449 | 0.0806 | 900 | 1 44.49 | 0.8062 |
| | | | | | | 1000 | 1 56.1 | 0.8958 |

255 Dr. Schram's valuation of the equation of the centre according to the *Ārya-Siddhānta* was proved to be so accurate that we need not have any hesitation in accepting his similar valuation of the same by the *Sārya-Siddhānta*. He fixes this for K.Y. 4000 as $2^{\circ} 8' 18''.472169$, and for K.Y. 5000 as $2^{\circ} 8' 19''.1842321$. The equation, therefore, in K.Y. 4500, the base-year of my Table, was $2^{\circ} 8' 18''.828200553$, or in ten-thousands of the circle 59.404538584.

The sun's mean anomaly at the moment of true Mēsha-samkrānti is 360° less the combined longitude of perigee and equation of centre, or $360^{\circ} - (257^{\circ} 16' 30''.45 + 2^{\circ} 8'$

18''828200553). The mean anomaly was therefore $100^{\circ} 35' 19''\cdot721799447$, or $100^{\circ} 35'\cdot178696657'$ or in ten-thousandths of the circle 2794064211415. This is the valuation which I have adopted for the starting-point for cols. 2, 3 of Table XLVIII B.

* The sun's mean longitude at the same moment, true Mēsha-samkrānti, is his mean anomaly plus the longitude of perigee, i.e. $100^{\circ} 35' 19''\cdot721799447 + 257^{\circ} 16' 30''\cdot45$. It was, therefore, $357^{\circ} 51' 41''\cdot171799447$, or in ten-thousandths of the circle 9940595461415. Table XLVIII B, cols. 4, 5, start from this point.

256. In calculating the true sun's correct longitude and equation for each day for the preparation of Tables XLVIII A and B I have obtained the equation by using the first or average difference in seconds as given in Table XLVII, cols. 6, 8, for each minute of anomaly-angle between the base-angle of the Table and the given angle, in the belief that this represents the practice of the Hindus in bygone centuries. It is possible to calculate with still greater minuteness. We might perhaps be able, by use of some complicated formula, to find out a more exact value of the difference in seconds applicable to the anomaly-angle under consideration; but this system would be so troublesome that it may be reasonably assumed to have never been adopted.

256 a. An example will best illustrate how each calculation for the 24-hour periods given in Tables XLVIII A and XLVIII B was made. The value of the equation is based on the angle of mean anomaly, "c" given in col. 2. The base-equation used is that for the base-angle next lower in the sine-table (XLVII, col. 5 or 7), the increment in the equation for the difference in angle between the base-angle and the given angle of anomaly being found by multiplying that difference in minutes and decimals by the amount given (col. 6 or 8) in seconds (this being the equation-difference per minute of anomaly-difference). The increment is added to or subtracted from the base-equations according as the consecutive base-equations are increasing or diminishing. The result is the exact equation for the given anomaly-angle, and this is entered in Table XLVIII A or B, cols. 6, 7. This equation is added to or subtracted from the mean longitude of the sun (Table XLVIII A or B, cols. 4, 5), and the result is the sun's true longitude, "s" (cols. 8, 9). The heading of the sine-Table (cols. 2, 11) shews whether the equation is plus or minus.

For an example I take Day 27 and work by the *Ārya-Siddhānta*, using only the number of decimals given in my Tables.

| | |
|---|----------------|
| Mean anomaly (Table XLVIII A, col. 2) | 126° 29' 72124 |
| Next-lower base-anomaly (Table XLVII, col. 2) | —123 45 |
| Difference | 2° 44' 72124 |

2° 44' = 164'. The multiplier per minute of difference is (col. 6) 1''·31.

$164^{\circ} 72124 \times 1''\cdot31 = 215\cdot7848244$, $215'' = 3' 35''$. Hence

| | |
|---|----------------|
| Base equation for anomaly 123° 45' (Table XLVII, col. 5) | 1° 47' 12''·75 |
| Difference in equation above found, deducted because the values in col. 5 are diminishing | —3 35 7848244 |

| | |
|----------------------------------|---------------------|
| Exact equation for given anomaly | 1° 43' 36''·9651756 |
|----------------------------------|---------------------|

| | |
|---|-----------------|
| Sun's mean longitude (Table XLVIII A, col. 4) | 24° 29' 43''·27 |
| Equation found (for sign column-heading) | +1 43 36·97 |

| | |
|--|-----------------|
| Exact value of sun's true longitude, "s" | 26° 13' 20''·24 |
|--|-----------------|

This is converted into 10,000ths of the circle by Table XLVA, and both values are entered in cols. 8, 9, of Table XLVIII. Work by the other *Siddhāntas* is precisely the same, the base-equations and multipliers being used, each set for its own authority.

In this way every figure of equation and true longitude has been worked out for every day of the year.

In applying these results to inscription-dates we calculate the "*s*" for mean sunrise as described above, § 238.

If anyone should wish to calculate with a greater number of decimals than the four given in the principal Tables he can work as follows. In § 254 above I have given by both the *Siddhāntas*, with nine decimals of a second, the exact mean anomaly of the sun and mean longitude at true Mēsha-saṁkrānti each year. Add for the intervening days, i.e. from the day on which Mēsha-saṁkrānti occurred down to the day in question (included), the quantity obtained by multiplying the figures given for one day in Table XLIII by the number of intervening days. This gives, with eight decimals of a second, the value of mean anomaly and mean longitude for the day. In calculating for the equation note that the base-equations according to the *Ārya-Siddhānta* are complete as given in Table XLVII. They are given in full for the other authorities in Table XLVIII.

TABLE XLIII.

MEAN MOTION OF THE SUN IN THE ECLIPTIC
according to the several Hindu astronomical authorities.
(Details worked out by M. Louis de Ries.)

| Serial number as in Table XXVII of "Indian Chronography." | Hindu authority. | Per Day of 24 hours. | | Per Hour. | |
|---|---|----------------------|----------------------|-------------------|----------------------|
| | | Parts of degrees. | 10,000ths of circle. | Parts of degrees. | 10,000ths of circle. |
| | | " | " | " | " |
| 5, 6 | Original <i>Sūrya-Siddhānta</i> . Utpala's <i>Paulīśa-Siddhānta</i> . | 59 8-16961,948 | 27-37785,2002 | 2 27-84040,081 | 1-14074,3833 |
| 7 | <i>First Arya-Siddhānta</i> (the <i>Aryabhaṭīya</i>). | 59 8-17029,407 | 27-37785,7207 | 2 27-84042,802 | 1-14074,4050 |
| 8, 13 | <i>Brahma-Siddhānta</i> . <i>Siddhānta-Sirōmaṇi</i> . | 59 8-17265,515 | 27-37787,5426 | 2 27-84052,989 | 1-14074,4829 |
| 9 | <i>Parāśara-Siddhānta</i> . . . | 59 8-17013,667 | 27-37785,5993 | 2 27-84042,236 | 1-14074,4600 |
| 10 | <i>Second Arya-Siddhānta</i> . . . | 59 8-17019,963 | 27-37785,6479 | 2 27-84042,498 | 1-14074,4620 |
| 11 | <i>Bājaniṅgiāṅka</i> | 59 8-17019,064 | 27-37785,6409 | 2 27-84042,461 | 1-14074,4617 |
| 12 | Present <i>Sūrya-Siddhānta</i> (with or without the <i>bija</i>). | 59 8-16965,652 | 27-37785,1516 | 2 27-84039,819 | 1-14074,3813 |

| | Hindu authority. | Per minute. | | Per second. | |
|-------|---|-------------------|----------------------|-------------------|----------------------|
| | | Parts of degrees. | 10,000ths of circle. | Parts of degrees. | 10,000ths of circle. |
| | | " | " | " | " |
| 5, 6 | Original <i>Sūrya-Siddhānta</i> . Utpala's <i>Paulīśa-Siddhānta</i> . | 2-46400,6680 | 0-01901,2397 | 0-04106,6778 | } 0-0005 1,6873 |
| 7 | <i>First Arya-Siddhānta</i> (the <i>Aryabhaṭīya</i>). | 2-46400,7149 | 0-01901,2401 | 0-04106,6786 | |
| 8, 13 | <i>Brahma-Siddhānta</i> . <i>Siddhānta-Sirōmaṇi</i> . | 2-46400,8788 | 0-01901,2414 | 0-04106,6813 | |
| 9 | <i>Parāśara-Siddhānta</i> | 2-46400,7039 | 0-01901,24006 | 0-04106,6784 | |
| 10 | <i>Second Arya-Siddhānta</i> | 2-46400,7083 | 0-01901,24003 | 0-04106,6785 | |
| 11 | <i>Bājaniṅgiāṅka</i> | 2-46400,7077 | 0-01901,24003 | 0-04106,6785 | |
| 12 | Present <i>Sūrya-Siddhānta</i> (with or without the <i>bija</i>). | 2-46400,6636 | 0-01901,2397 | 0-04106,6777 | |

TABLE XLIV.

THE SUN'S MEAN MOTION

per civil day of 24 hours, hour, minute and second, according to the *First Ārya-Siddhanta*, but generally applicable to all the Indian astronomical *Siddhāntas* (see *foot-note*).

| Collective increase per civil day. | | | | Collective increase per hour. | | | | Collective increase per minute. | | | | Collective increase per second. | | | |
|------------------------------------|---------------|----------------------|-----|-------------------------------|----------------------|-----|---------------|---------------------------------|-----|---------------|----------------------|---------------------------------|---------------|----------------------|--|
| No. | Degrees, etc. | 10,000ths of circle. | No. | Degrees, etc. | 10,000ths of circle. | No. | Degrees, etc. | 10,000ths of circle. | No. | Degrees, etc. | 10,000ths of circle. | No. | Degrees, etc. | 10,000ths of circle. | |
| 1 | 0 59 8.17 | 27.3779 | 1 | 2 27.84 | 1.1407 | 1 | 0 2.46 | 0.0190 | 31 | 1 16.38 | 0.5894 | 1 | 0.04 | 0.0099 | |
| 2 | 1 58 16.34 | 54.7557 | 2 | 4 55.68 | 2.2815 | 2 | 0 4.93 | 0.0380 | 32 | 1 18.85 | 0.6084 | 2 | 0.08 | 0.0099 | |
| 3 | 2 57 24.51 | 82.1336 | 3 | 7 23.52 | 3.4222 | 3 | 0 7.39 | 0.0570 | 33 | 1 21.31 | 0.6274 | 3 | 0.12 | 0.0010 | |
| 4 | 3 56 32.68 | 109.5114 | 4 | 9 51.36 | 4.5630 | 4 | 0 9.86 | 0.0760 | 34 | 1 23.78 | 0.6464 | 4 | 0.16 | 0.0013 | |
| 5 | 4 55 40.85 | 136.8893 | 5 | 12 19.20 | 5.7037 | 5 | 0 12.32 | 0.0951 | 35 | 1 26.24 | 0.6654 | 5 | 0.21 | 0.0016 | |
| 6 | 5 54 49.02 | 164.2671 | 6 | 14 47.04 | 6.8445 | 6 | 0 14.78 | 0.1141 | 36 | 1 28.70 | 0.6844 | 6 | 0.25 | 0.0019 | |
| 7 | 6 53 57.19 | 191.6450 | 7 | 17 14.88 | 7.9852 | 7 | 0 17.29 | 0.1331 | 37 | 1 31.17 | 0.7035 | 7 | 0.29 | 0.0022 | |
| 8 | 7 53 5.36 | 219.0229 | 8 | 19 42.72 | 9.1260 | 8 | 0 19.71 | 0.1521 | 38 | 1 33.63 | 0.7225 | 8 | 0.33 | 0.0025 | |
| 9 | 8 52 13.53 | 246.4007 | 9 | 22 10.56 | 10.2667 | 9 | 0 22.18 | 0.1711 | 39 | 1 36.10 | 0.7415 | 9 | 0.37 | 0.0029 | |
| 10 | 9 51 21.70 | 273.7786 | 10 | 24 38.40 | 11.4074 | 10 | 0 24.64 | 0.1901 | 40 | 1 38.56 | 0.7605 | 10 | 0.41 | 0.0032 | |
| 11 | 10 50 29.87 | 301.1504 | 11 | 27 6.24 | 12.5482 | 11 | 0 27.10 | 0.2091 | 41 | 1 41.02 | 0.7795 | 11 | 0.45 | 0.0035 | |
| 12 | 11 49 38.04 | 328.5343 | 12 | 29 34.08 | 13.6889 | 12 | 0 29.57 | 0.2281 | 42 | 1 43.49 | 0.7985 | 12 | 0.49 | 0.0038 | |
| 13 | 12 48 46.21 | 355.9121 | 13 | 32 1.93 | 14.8297 | 13 | 0 32.03 | 0.2472 | 43 | 1 45.95 | 0.8175 | 13 | 0.53 | 0.0041 | |
| 14 | 13 47 54.38 | 383.2900 | 14 | 34 29.77 | 15.9704 | 14 | 0 34.50 | 0.2662 | 44 | 1 48.42 | 0.8365 | 14 | 0.57 | 0.0044 | |
| 15 | 14 47 2.55 | 410.6679 | 15 | 36 57.61 | 17.1112 | 15 | 0 36.96 | 0.2852 | 45 | 1 50.88 | 0.8556 | 15 | 0.62 | 0.0048 | |

| | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|----|-------|-----------|----|----|-------|---------|----|---|-------|---------|----|---|-------|---------|----|------|--------|----|------|--------|
| 16 | 15 | 40 | 10-52 | 438-0457 | 16 | 39 | 25-45 | 18-2519 | 15 | 0 | 39-42 | 0-30-42 | 46 | 1 | 53-34 | 0-87-46 | 16 | 0-66 | 0-0051 | 46 | 1-89 | 0-0146 |
| 17 | 16 | 45 | 18-60 | 465-4286 | 17 | 41 | 53-29 | 19-3926 | 17 | 0 | 41-89 | 0-32-52 | 47 | 1 | 55-81 | 0-80-36 | 17 | 0-70 | 0-0054 | 47 | 1-93 | 0-0149 |
| 18 | 17 | 44 | 27-07 | 492-8014 | 18 | 44 | 21-13 | 20-5334 | 18 | 0 | 44-35 | 0-34-22 | 48 | 1 | 58-27 | 0-91-26 | 18 | 0-74 | 0-0057 | 48 | 1-97 | 0-0152 |
| 19 | 18 | 43 | 35-24 | 520-1793 | 19 | 46 | 48-07 | 21-0741 | 19 | 0 | 46-82 | 0-3612 | 49 | 2 | 0-74 | 0-9310 | 19 | 0-78 | 0-0060 | 49 | 2-01 | 0-0155 |
| 20 | 19 | 42 | 43-41 | 547-5571 | 20 | 49 | 10-81 | 22-8149 | 20 | 0 | 49-28 | 0-3802 | 50 | 2 | 3-20 | 0-9500 | 20 | 0-82 | 0-0063 | 50 | 2-05 | 0-0158 |
| 21 | 20 | 41 | 51-58 | 574-0350 | 21 | 51 | 44-65 | 23-9256 | 21 | 0 | 51-74 | 0-3993 | 51 | 2 | 5-66 | 0-9696 | 21 | 0-86 | 0-0067 | 51 | 2-09 | 0-0162 |
| 22 | 21 | 40 | 59-75 | 602-3129 | 22 | 54 | 12-49 | 25-0664 | 22 | 0 | 54-21 | 0-4183 | 52 | 2 | 8-13 | 0-9886 | 22 | 0-90 | 0-0070 | 52 | 2-14 | 0-0165 |
| 23 | 22 | 40 | 7-92 | 629-6807 | 23 | 56 | 40-33 | 26-2371 | 23 | 0 | 56-67 | 0-4373 | 53 | 2 | 10-59 | 1-0077 | 23 | 0-94 | 0-0073 | 53 | 2-18 | 0-0168 |
| 24 | 23 | 39 | 16-09 | 657-0586 | | | | | 24 | 0 | 59-14 | 0-4563 | 54 | 2 | 13-06 | 1-0267 | 24 | 0-99 | 0-0076 | 54 | 2-22 | 0-0171 |
| 25 | 24 | 38 | 24-26 | 684-4464 | | | | | 25 | 1 | 1-00 | 0-4753 | 55 | 2 | 15-52 | 1-0457 | 25 | 1-03 | 0-0079 | 55 | 2-26 | 0-0174 |
| 26 | 25 | 37 | 32-43 | 711-8243 | | | | | 26 | 1 | 4-00 | 0-4943 | 56 | 2 | 17-48 | 1-0647 | 26 | 1-07 | 0-0082 | 56 | 2-30 | 0-0177 |
| 27 | 26 | 36 | 40-60 | 739-2021 | | | | | 27 | 1 | 6-53 | 0-5133 | 57 | 2 | 20-45 | 1-0837 | 27 | 1-11 | 0-0086 | 57 | 2-34 | 0-0181 |
| 28 | 27 | 35 | 48-77 | 766-5800 | | | | | 28 | 1 | 8-00 | 0-5323 | 58 | 2 | 22-31 | 1-1027 | 28 | 1-15 | 0-0089 | 58 | 2-38 | 0-0184 |
| 29 | 28 | 34 | 56-94 | 793-9579 | | | | | 29 | 1 | 11-46 | 0-5514 | 59 | 2 | 25-38 | 1-1217 | 29 | 1-19 | 0-0092 | 59 | 2-42 | 0-0187 |
| 30 | 29 | 34 | 5-11 | 821-3357 | | | | | 30 | 1 | 13-02 | 0-5704 | | | | | 30 | 1-23 | 0-0095 | | | |
| 31 | 30 | 33 | 13-28 | 848-7136 | | | | | | | | | | | | | | | | | | |
| 100 | 98 | 33 | 37-03 | 937-7857 | | | | | | | | | | | | | | | | | | |
| 200 | 197 | 7 | 14-06 | 5475-5714 | | | | | | | | | | | | | | | | | | |
| 300 | 295 | 46 | 51-09 | 8213-3572 | | | | | | | | | | | | | | | | | | |
| 365 | 359 | 44 | 42-10 | 9902-9179 | | | | | | | | | | | | | | | | | | |

Note.—The Table figures are calculated by the *First Arya-Siddhanta*. The difference between these and the same according to the *Present Surya-Siddhanta*, *Parāra* and *Second Arya-Siddhanta* and the *Rājāriṣṭhaka* is negligible. For the total of 365 days according to the *Brahma-Siddhanta* and *Siddhanta-Sūtra* the difference amounts to 0°. 80 or (in 10,000ths of the circle) 0.0080, by which these are greater than the figures given, their total for 365 days being 359° 44' 43". 02 or (in 10,000ths of the circle) 9902.9245. It is not necessary for historical purposes to trouble about the *Original Surya* or *Parāra-Siddhanta*. Any one desiring to do so can calculate them from Table XLIII.

TABLE XLIVA.

LONGITUDE OF SUN'S APSIS (PERIGEE) AND EQUATION OF CENTRE
at different millenniums, according to the Hindu standard authorities.

[Position of apsis is given according to Jacobi, *Epig. Ind. I*, 449, 459; the equation has been calculated by Dr. Schram.]

| First <i>Arga-Siddhānta</i> (<i>Argakhaṭṭya</i>). | | | | Present <i>Sūrya-Siddhānta</i> . | | | |
|---|--------------------------|---------------------------------|---|----------------------------------|--------------------------|---------------------------------|---|
| Kali-yuga. | Christian year (roughly) | Long. of sun's apsis (perigee). | Sun's equation of centre at true Mēsha-samkrānti. | Kali-yuga. | Christian year (roughly) | Long. of sun's apsis (perigee). | Sun's equation of centre at true Mēsha-samkrānti. |
| | B.C. | | | | B.C. | | |
| 0 | 3100 | 258 0 0 | 2 6 57-323494885 | 0 | 3100 | 257 7 48-0 | 2 8 15-62388331 |
| 1000 | 2100 | | | 1000 | 2100 | 257 9 44-1 | 2 8 16-335959734 |
| 2000 | 1100 | | | 2000 | 1100 | 257 11 40-2 | 2 8 17-048032824 |
| 3000 | 100 | | | 3000 | 100 | 257 13 36-3 | 2 8 17-760102582 |
| | A.D. | | | | A.D. | | |
| 4000 | 900 | 257 15 32-4 | 2 8 18-472169007 | 4000 | 900 | 257 15 32-4 | 2 8 18-472169007 |
| 5000 | 1900 | | | 5000 | 1900 | 257 17 28-5 | 2 8 19-184232099 |
| <i>Brahma-Siddhānta</i> . | | | | <i>Siddhānta-Śrīmāṇi</i> . | | | |
| | B.C. | | | | B.C. | | |
| 0 | 3100 | 257 45 36 | 2 8 26-527631345 | 0 | 3100 | 257 45 36 | 2 8 26-527631345 |
| 1000 | 2100 | 257 48 0 | 2 8 27-432241607 | 1000 | 2100 | 258 3 0 | 2 8 33-086053747 |
| 2000 | 1100 | 257 50 24 | 2 8 28-336851869 | 2000 | 1100 | 258 20 24 | 2 8 39-644480150 |
| 3000 | 100 | 257 52 48 | 2 8 29-241462132 | 3000 | 100 | 258 37 48 | 2 8 46-202904552 |
| | A.D. | | | | A.D. | | |
| 4000 | 900 | 257 55 12 | 2 8 30-146072394 | 4000 | 900 | 258 55 12 | 2 8 52-761328955 |
| 5000 | 1900 | 257 57 36 | 2 8 31-050682657 | 5000 | 1900 | 259 12 36 | 2 8 59-319753357 |
| <i>Second Arga-Siddhānta</i> . | | | | | | | |
| | B.C. | | | | | | |
| 0 | 3100 | 257 45 36-0 | 2 8 26-527631345 | | | | |
| 1000 | 2100 | 257 47 54-3 | 2 8 27-396434118 | | | | |
| 2000 | 1100 | 257 50 12-6 | 2 8 28-265236890 | | | | |
| 3000 | 100 | 257 52 30-9 | 2 8 29-134039663 | | | | |
| | A.D. | | | | | | |
| 4000 | 900 | 257 54 49-2 | 2 8 30-002842436 | | | | |
| 5000 | 1900 | 257 57 7-5 | 2 8 30-871645209 | | | | |

TABLE XLVB.

FOR CONVERSION OF MEASUREMENT BY 10,000THS OF THE CIRCLE INTO MEASUREMENT BY DEGREES, MINUTES AND SECONDS ($^{\circ}$ $'$ $''$).

| 10,000ths of circle. | $^{\circ}$ $'$ | 10,000ths of circle. | $^{\circ}$ $'$ | 10,000ths of circle. | $^{\circ}$ $'$ $''$ | 10,000ths of circle. | $^{\circ}$ $'$ $''$ | 10,000ths of circle. | $^{\circ}$ $'$ $''$ | 10,000ths of circle. | $^{\circ}$ $'$ $''$ |
|-------------------------|----------------|-------------------------|----------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|
| 1000 | 26 0 | 100 | 3 36 | 1 | 0 2 9-6 | 41 | 1 28 33-6 | 81 | 2 54 57-6 | | |
| 2000 | 72 0 | 200 | 7 12 | 2 | 0 4 19-2 | 42 | 1 30 43-2 | 82 | 2 57 7-2 | | |
| 3000 | 108 0 | 300 | 10 48 | 3 | 0 6 28-8 | 43 | 1 32 52-8 | 83 | 2 59 16-8 | | |
| 4000 | 144 0 | 400 | 14 24 | 4 | 0 8 38-4 | 44 | 1 35 2-4 | 84 | 3 1 26-4 | | |
| 5000 | 180 0 | 500 | 18 0 | 5 | 0 10 48-0 | 45 | 1 37 12-0 | 85 | 3 3 36-0 | | |
| 6000 | 216 0 | 600 | 21 36 | 6 | 0 12 57-6 | 46 | 1 39 21-6 | 86 | 3 5 45-6 | | |
| 7000 | 252 0 | 700 | 25 12 | 7 | 0 15 7-2 | 47 | 1 41 31-2 | 87 | 3 7 55-2 | | |
| 8000 | 288 0 | 800 | 28 48 | 8 | 0 17 16-8 | 48 | 1 43 40-8 | 88 | 3 10 4-8 | | |
| 9000 | 324 0 | 900 | 32 24 | 9 | 0 19 26-4 | 49 | 1 45 50-4 | 89 | 3 12 14-4 | | |
| 10,000 | 360 0 | 1000 | 36 0 | 10 | 0 21 36-0 | 50 | 1 48 0-0 | 90 | 3 14 24-0 | | |
| | | | | 11 | 0 23 45-6 | 51 | 1 50 9-6 | 91 | 3 16 33-6 | | |
| | | | | 12 | 0 25 55-2 | 52 | 1 52 19-2 | 92 | 3 18 43-2 | | |
| | | | | 13 | 0 28 4-8 | 53 | 1 54 28-8 | 93 | 3 20 52-8 | | |
| | | | | 14 | 0 30 14-4 | 54 | 1 56 38-4 | 94 | 3 23 2-4 | | |
| | | | | 15 | 0 32 24-0 | 55 | 1 58 48-0 | 95 | 3 25 12-0 | | |
| | | | | 16 | 0 34 33-6 | 56 | 2 0 57-6 | 96 | 3 27 21-6 | | |
| | | | | 17 | 0 36 43-2 | 57 | 2 3 7-2 | 97 | 3 29 31-2 | | |
| | | | | 18 | 0 38 52-8 | 58 | 2 5 16-8 | 98 | 3 31 40-8 | | |
| | | | | 19 | 0 41 2-4 | 59 | 2 7 26-4 | 99 | 3 33 50-4 | | |
| | | | | 20 | 0 43 12-0 | 60 | 2 9 36-0 | 100 | 3 36 0-0 | | |
| | | | | 21 | 0 44 21-6 | 61 | 2 11 45-6 | | | | |
| | | | | 22 | 0 46 31-2 | 62 | 2 13 55-2 | | | | |
| | | | | 23 | 0 48 40-8 | 63 | 2 16 4-8 | | | | |
| | | | | 24 | 0 50 50-4 | 64 | 2 18 14-4 | | | | |
| | | | | 25 | 0 54 0-0 | 65 | 2 20 24-0 | | | | |
| | | | | 26 | 0 56 9-6 | 66 | 2 22 33-6 | | | | |
| | | | | 27 | 0 58 19-2 | 67 | 2 24 43-2 | | | | |
| | | | | 28 | 1 0 28-8 | 68 | 2 26 52-8 | | | | |
| | | | | 29 | 1 2 38-4 | 69 | 2 29 2-4 | | | | |
| | | | | 30 | 1 4 48-0 | 70 | 2 31 12-0 | | | | |
| | | | | 31 | 1 6 57-6 | 71 | 2 33 21-6 | | | | |
| | | | | 32 | 1 9 7-2 | 72 | 2 35 31-2 | | | | |
| | | | | 33 | 1 11 16-8 | 73 | 2 37 40-8 | | | | |
| | | | | 34 | 1 13 26-4 | 74 | 2 39 50-4 | | | | |
| | | | | 35 | 1 15 36-0 | 75 | 2 42 0-0 | | | | |
| | | | | 36 | 1 17 45-6 | 76 | 2 44 9-6 | | | | |
| | | | | 37 | 1 19 55-2 | 77 | 2 46 19-2 | | | | |
| | | | | 38 | 1 22 4-8 | 78 | 2 48 28-8 | | | | |
| | | | | 39 | 1 24 14-4 | 79 | 2 50 38-4 | | | | |
| | | | | 40 | 1 26 24-0 | 80 | 2 52 48-0 | | | | |

DECIMALS OF UNITS.
(10,000ths of circle.)

| Unit. | $'$ $''$ | Unit. | $''$ |
|-------|----------|-------|--------|
| 0-1 | 0 12-00 | 0-01 | 1-296 |
| 0-2 | 0 25-92 | 0-02 | 2-592 |
| 0-3 | 0 38-88 | 0-03 | 3-888 |
| 0-4 | 0 51-84 | 0-04 | 5-184 |
| 0-5 | 1 4-80 | 0-05 | 6-480 |
| 0-6 | 1 17-76 | 0-06 | 7-776 |
| 0-7 | 1 30-72 | 0-07 | 9-072 |
| 0-8 | 1 43-68 | 0-08 | 10-368 |
| 0-9 | 1 56-64 | 0-09 | 11-664 |

For every successive decimal of unit move the decimal point of seconds one place to the left.

TABLE XLVI.

INDICES OF NAKSHATRAS AND YOGAS.

To take, for close work, the place of Table VIII, cols. 6 to 13, of the "Indian Calendar."

| NAKSHATRA. | | | | | | | | YOGA. | | |
|----------------|---------------------------|---|----------------------|--------------------------------------|----------------------|---------------------------------------|----------------------|----------------|------------------|---|
| Serial number. | Name. | Ending point by the Equal-space system. | | Ending point by the system of Garga. | | Ending point by the Brahma-Siddhanta. | | Serial number. | Name. | Ending point. |
| | | | 10,000ths of circle. | | 10,000ths of circle. | | 10,000ths of circle. | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1 | Āśvinī* | 13 20 | 370-370 | 13 20 | 370-370 | 13 10 35 | 366-0108 | 1 | Vishkambha | The ending point is the same as in the case of the equal-space nakshatra (number by number) as given in cols. 3, 4. |
| 2 | Bharanī | 26 40 | 740-740 | 20 0 | 555-5 | 19 45 52½ | 549-0031 | 2 | Prīti | |
| 3 | Kṛttikā | 40 0 | 1111-1 | 33 20 | 925-025 | 32 56 27½ | 915-0270 | 3 | Ayushmat | |
| 4 | Rōhīṇī | 53 20 | 1481-181 | 53 20 | 1481-181 | 52 42 20 | 1474-0432 | 4 | Saubhāgya | |
| 5 | Mṛgaśīras | 66 40 | 1851-551 | 66 40 | 1851-551 | 65 52 55 | 1830-0540 | 5 | Sōbhana | |
| 6 | Ādrā | 80 0 | 2222-2 | 73 20 | 2037-037 | 72 28 12½ | 2013-0594 | 6 | Atigandha | |
| 7 | Punarvasu | 93 20 | 2592-592 | 93 20 | 2592-592 | 92 14 5 | 2562-0756 | 7 | Sukarman | |
| 8 | Pushya | 106 40 | 2962-962 | 106 40 | 2962-962 | 105 24 40 | 2928-0864 | 8 | Dhṛiti | |
| 9 | Ālōshā | 120 0 | 3333-3 | 113 20 | 3148-148 | 111 59 57½ | 3111-0918 | 9 | Śūla | |
| 10 | Maghā | 133 20 | 3703-703 | 126 40 | 3518-518 | 125 10 32½ | 3477-1026 | 10 | Gandha | |
| 11 | Pūrva Phalgunī | 146 40 | 4074-074 | 140 0 | 3888-8 | 138 21 7½ | 3843-1134 | 11 | Vṛiddhi | |
| 12 | Uttara Phalgunī | 160 0 | 4444-4 | 160 0 | 4444-4 | 158 7 0 | 4392-1296 | 12 | Dhruva | |
| 13 | Hasta | 173 20 | 4814-814 | 173 20 | 4814-814 | 171 17 35 | 4758-1404 | 13 | Vyāghāta | |
| 14 | Chitrā | 186 40 | 5185-185 | 186 40 | 5185-185 | 184 28 10 | 5124-1512 | 14 | Harshaṇa | |
| 15 | Svātī | 200 0 | 5555-5 | 193 20 | 5370-370 | 191 3 27½ | 5307-1566 | 15 | Vajra | |
| 16 | Viśākhā | 213 20 | 5925-925 | 213 20 | 5925-925 | 210 49 20 | 5856-1728 | 16 | Siddhi or Āśrij. | |
| 17 | Anurādhā | 226 40 | 6296-296 | 226 40 | 6296-296 | 223 59 55 | 6222-1836 | 17 | Vyātipāta | |
| 18 | Jyēsthā | 240 0 | 6666-6 | 233 20 | 6481-481 | 230 35 12½ | 6405-1890 | 18 | Vārīyan | |
| 19 | Mōla | 253 20 | 7037-037 | 246 40 | 6851-851 | 243 45 47½ | 6771-1998 | 19 | Parigha | |
| 20 | Pūrva Āshāḍhā | 266 40 | 7407-407 | 260 0 | 7222-2 | 256 56 22½ | 7137-2106 | 20 | Śiva | |
| 21 | Uttara Āshāḍhā | 280 0 | 7777-7 | 280 0 | 7777-7 | 276 42 15 | 7686-2269 | 21 | Siddha | |
| | Abhijit† | ... | ... | ... | ... | 280 56 30 | 7803-9352 | | ... | |
| 22 | Śravaṇa | 293 20 | 8148-148 | 293 20 | 8148-148 | 294 7 5 | 8169-9460 | 22 | Sādhyā | |
| 23 | Dhanishthā or Śraviṣthā | 306 40 | 8518-518 | 306 40 | 8518-518 | 307 17 40 | 8535-9568 | 23 | Śubha | |
| 24 | Śatabhishaj or Śatatārakā | 320 0 | 8888-8 | 313 20 | 8703-703 | 313 52 57½ | 8718-9622 | 24 | Śukla | |
| 25 | Pūrva Bhadra-padā | 333 20 | 9259-259 | 326 40 | 9074-074 | 327 3 32½ | 9084-9730 | 25 | Brahman | |
| 26 | Uttara Bhadra-padā | 346 40 | 9629-629 | 346 40 | 9629-629 | 348 49 25 | 9633-9892 | 26 | Indra | |
| 27 | Rēvati | 360 | 10,000 | 360 | 10,000 | 360 | 10,000 | 27 | Vaidhṛiti | |

* Āśvinī begins at 0° by all systems.

† Though properly speaking there is no Abhijit in the equal-space system in ordinary use, sometimes it is referred to as a secondary detail. When this is the case, it has the same limits as fixed by the Brahma-Siddhanta viz., 276° 42' 15" to 285° 56' 30", or, in 10,000ths of the circle, 7686-2269 to 7803-9352.

TABLE XLVII.

HINDU SINES, AND EQUATIONS OF SUN'S CENTRE.

N. B. i.—The sines, col. 3, stand, it is believed, for all authorities except the *Brahma-Siddhanta* (for this last see Table LXXXIX below).

ii.—“Equation +” or “—” means that the amount of the equation, added to or subtracted from the sun's mean long., gives his true or apparent long.

iii.—This Table is assimilated to that of Prof. Jacobi (*Epig. Ind.*, I. 459).

iv.—First *Ārya* figures are exact. For fuller details see next Table.

| Serial number of sine | SUN'S MEAN ANOMALY. | | | | SINE OF MEAN ANOM. ANGLE. | | SUN'S EQUATION OF THE CENTRE ACCORDING TO THE | | | | | | | | | | SUN'S MEAN ANOMALY. | | | | Serial number of sine |
|-----------------------|---------------------|----|-----|----|---------------------------|-------|---|-------------------------|--------------------------|-------------------------|-------------------------------------|-------------------------|------------|----|----|----|---------------------|--|--|--|-----------------------|
| | | | | | | | First Ārya-Siddhanta. | | Present Sūrya-Siddhanta. | | Second Ārya-and Siddhanta Sīrōmaṇi. | | | | | | | | | | |
| | | | | | | | Base-equation. | Diff. per min. of anom. | Base-equation. | Diff. per min. of anom. | Base-equation. | Diff. per min. of anom. | | | | | | | | | |
| | Equation + | | | | Minutes. | Diff. | | | | | | | Equation — | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | |
| 0 | 0 | 0 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 180 | 0 | 360 | 0 | 0 | | | | | | | |
| 1 | 3 | 45 | 176 | 15 | 225 | 2-25 | 0 8 44-18 | 2-33 | 0 8 32-50 | 2-28 | 183 | 45 | 356 | 15 | 1 | | | | | | |
| 2 | 7 | 30 | 172 | 30 | 224 | 2-24 | 0 17 24-41 | 2-31 | 0 17 2-72 | 2-27 | 187 | 30 | 352 | 30 | 2 | | | | | | |
| 3 | 11 | 15 | 168 | 45 | 222 | 2-22 | 0 25 58-39 | 2-28 | 0 25 28-39 | 2-25 | 191 | 15 | 348 | 45 | 3 | | | | | | |
| 4 | 15 | 0 | 165 | 0 | 219 | 2-19 | 0 34 23-87 | 2-27 | 0 33 47-22 | 2-23 | 195 | 0 | 345 | 0 | 4 | | | | | | |
| 5 | 18 | 45 | 161 | 15 | 215 | 2-15 | 0 42 38-00 | 2-20 | 0 41 56-04 | 2-18 | 198 | 45 | 341 | 15 | 5 | | | | | | |
| 6 | 22 | 30 | 157 | 30 | 210 | 2-10 | 0 50 40-39 | 2-14 | 0 49 55-28 | 2-12 | 202 | 30 | 337 | 30 | 6 | | | | | | |
| 7 | 26 | 15 | 153 | 45 | 206 | 2-06 | 0 58 29-33 | 2-08 | 0 57 42-22 | 2-08 | 206 | 15 | 333 | 45 | 7 | | | | | | |
| 8 | 30 | 0 | 150 | 0 | 199 | 1-99 | 1 6 3-25 | 2-02 | 1 5 15-50 | 2-01 | 210 | 0 | 330 | 0 | 8 | | | | | | |
| 9 | 33 | 45 | 146 | 15 | 191 | 1-91 | 1 13 17-72 | 1-93 | 1 12 30-56 | 1-93 | 213 | 45 | 326 | 15 | 9 | | | | | | |
| 10 | 37 | 30 | 142 | 30 | 183 | 1-83 | 1 20 12-88 | 1-85 | 1 19 27-39 | 1-80 | 217 | 30 | 322 | 30 | 10 | | | | | | |
| 11 | 41 | 15 | 138 | 45 | 174 | 1-74 | 1 26 46-62 | 1-75 | 1 26 3-72 | 1-76 | 221 | 15 | 318 | 45 | 11 | | | | | | |
| 12 | 45 | 0 | 135 | 0 | 164 | 1-64 | 1 32 56-84 | 1-65 | 1 32 17-28 | 1-66 | 225 | 0 | 315 | 0 | 12 | | | | | | |
| 13 | 48 | 45 | 131 | 15 | 154 | 1-54 | 1 38 43-69 | 1-54 | 1 38 8-06 | 1-56 | 228 | 45 | 311 | 15 | 13 | | | | | | |
| 14 | 52 | 30 | 127 | 30 | 143 | 1-43 | 1 44 4-96 | 1-43 | 1 43 33-78 | 1-45 | 232 | 30 | 307 | 30 | 14 | | | | | | |
| 15 | 56 | 15 | 123 | 45 | 131 | 1-31 | 1 48 38-92 | 1-31 | 1 48 32-17 | 1-33 | 236 | 15 | 303 | 45 | 15 | | | | | | |
| 16 | 60 | 0 | 120 | 0 | 119 | 1-19 | 1 53 25-36 | 1-18 | 1 53 3-22 | 1-20 | 240 | 0 | 300 | 0 | 16 | | | | | | |
| 17 | 63 | 45 | 116 | 15 | 106 | 1-06 | 1 57 22-31 | 1-05 | 1 57 4-67 | 1-07 | 243 | 45 | 296 | 15 | 17 | | | | | | |
| 18 | 67 | 30 | 112 | 30 | 93 | 0-93 | 2 0 49-90 | 0-92 | 2 0 36-50 | 0-94 | 247 | 30 | 292 | 30 | 18 | | | | | | |
| 19 | 71 | 15 | 108 | 45 | 79 | 0-79 | 2 3 46-02 | 0-78 | 2 3 36-44 | 0-80 | 251 | 15 | 288 | 45 | 19 | | | | | | |
| 20 | 75 | 0 | 105 | 0 | 65 | 0-65 | 2 6 10-78 | 0-64 | 2 6 4-50 | 0-66 | 255 | 0 | 285 | 0 | 20 | | | | | | |
| 21 | 78 | 45 | 101 | 15 | 51 | 0-51 | 2 8 4-26 | 0-50 | 2 8 0-67 | 0-52 | 258 | 45 | 281 | 15 | 21 | | | | | | |
| 22 | 82 | 30 | 97 | 30 | 37 | 0-37 | 2 9 26-54 | 0-37 | 2 9 24-94 | 0-37 | 262 | 30 | 277 | 30 | 22 | | | | | | |
| 23 | 86 | 15 | 93 | 45 | 22 | 0-22 | 2 10 15-44 | 0-22 | 2 10 15-06 | 0-22 | 266 | 15 | 273 | 45 | 23 | | | | | | |
| 24 | 90 | 0 | 90 | 0 | 7 | 0-07 | 2 10 31-0 | 0-07 | 2 10 31-0 | 0-07 | 270 | 0 | 270 | 0 | 24 | | | | | | |

TABLE XLVIA.

(Supplementary to the Sine and Equation Table).

Giving fuller details of the entries in Table XLVII, cols. 7, 8, 9, 10, viz., base-equations and differences per minute of arc, for use in close calculation, according to—

(i) The *Present Sūrya-Siddhānta*.(ii) The *Second Ārya-Siddhānta* and *Siddhānta-Sirōmaṇi*.

| Serial number of sine. | <i>Present Sūrya-Siddhānta.</i> | | | <i>2nd Ārya-Siddhānta and Siddhānta-Sirōmaṇi.</i> | | |
|------------------------|---------------------------------|----------------|--------------------------------|---|----------|--------------------------------|
| | Base-equation. | | Diff. per minute of anom. arc. | Base-equation | | Diff. per minute of anom. arc. |
| | ° | ' " | | ° | ' " | |
| 1 | 7 | | 8 | 9 | | 10 |
| | ° | ' " | | ° | ' " | |
| 0 | 0 | 0 0-0 | | 0 | 0 0-0 | |
| 1 | 0 | 8 44-18193720 | 2-3297 | 0 | 8 32-5 | 2-2777 |
| 2 | 0 | 17 24-40894254 | 2-3121 | 0 | 17 2-72 | 2-2677 |
| 3 | 0 | 25 58-39110270 | 2-2844 | 0 | 25 28-38 | 2-24740 |
| 4 | 0 | 34 23-86691232 | 2-2466 | 0 | 33 47-2 | 2-21703 |
| 5 | 0 | 42 38-60246580 | 2-1988 | 0 | 41 56-94 | 2-1765 |
| 6 | 0 | 50 40-30032702 | 2-1413 | 0 | 49 55-27 | 2-1215 |
| 7 | 0 | 58 29-33229918 | 2-0842 | 0 | 57 42-2 | 2-0733 |
| 8 | 1 | 6 3-25 | 2-0174 | 1 | 5 15-5 | 2-0146 |
| 9 | 1 | 13 17-71004934 | 1-9310 | 1 | 12 30-5 | 1-9336 |
| 10 | 1 | 20 12-87850542 | 1-8452 | 1 | 19 27-38 | 1-8526 |
| 11 | 1 | 26 46-61053014 | 1-7500 | 1 | 26 3-72 | 1-76148 |
| 12 | 1 | 32 56-83576962 | 1-6454 | 1 | 32 17-27 | 1-6602 |
| 13 | 1 | 38 43-68681726 | 1-5416 | 1 | 38 8-06 | 1-5590 |
| 14 | 1 | 44 4-95633636 | 1-4279 | 1 | 43 33-7 | 1-4477 |
| 15 | 1 | 48 58-91608494 | 1-3065 | 1 | 48 32-16 | 1-3262 |
| 16 | 1 | 53 25-35847716 | 1-1842 | 1 | 53 3-2 | 1-2047 |
| 17 | 1 | 57 22-30831878 | 1-0531 | 1 | 57 4-6 | 1-0731 |
| 18 | 2 | 0 49 89921462 | 0-9226 | 2 | 0 36-5 | 0-94148 |
| 19 | 2 | 3 46-02020604 | 0-7828 | 2 | 3 36-4 | 0-7968 |
| 20 | 2 | 6 10-77879376 | 0-6434 | 2 | 6 4-5 | 0-6580 |
| 21 | 2 | 8 4-26294360 | 0-5044 | 2 | 8 0-6 | 0-5163 |
| 22 | 2 | 9 26-54196504 | 0-3657 | 2 | 9 24-94 | 0-3746 |
| 23 | 2 | 10 15-44365260 | 0-2173 | 2 | 10 15-05 | 0-2727 |
| 24 | 2 | 10 31-0 | 0-0691 | 2 | 10 31-0 | 0-0709 |

N. E.—In col. 9 under " (seconds) and opposite lines Nos. 4, 5, 18, 20, the last figure, ".5" is not, like the rest, a recurring decimal.

TABLE XLVIII A.

ELEMENTS OF THE SUN'S LONGITUDE FOR THE HINDU SOLAR YEAR
according to the **First Arya-Siddhanta**,
in periods of 24-hours each from the moment of true Mesha-saṁkrānti,
the astronomical beginning of the solar year.

(Exact for all years.)

[True longitude = mean longitude + equation of centre.]

1st Arya-Siddhanta.

| 24-hour periods from true Mēśa-saṁkrānti. | Sun's mean anomaly (or mean sun's distance from perige- point) ($^{\circ}C$). | | Sun's mean longitude. | | Sun's equation of the centre. + | | Sun's true longitude ($^{\circ}S$). | | | | | | | | |
|---|--|-------------------------|-----------------------|-------------------------|------------------------------------|-------------------------|--|-------------------------|------|---------|---------|----|-------|----------|----------|
| | \circ | $'$ | \circ | $'$ | \circ | $'$ | \circ | $'$ | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | |
| | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | | | | | | | |
| (The sun's equation of the centre is \mp till his mean anomaly reaches 180°). | | | | | | | | | | | | | | | |
| At moment of true Mēśa- saṁkrānti. | 99 | 53-04461 | 2774-5577 | 357 | 53 | 2-68 | 5941-2244 | 2 | 6 | 57-32 | 38-7756 | 0 | 0 | 0-0 | 0-0 |
| | 100 | 52-18078 | 2801-1355 | 358 | 52 | 10-85 | 9608-9022 | 2 | 6 | 35-44 | 58-6008 | 0 | 58 | 46-29 | 27-2090 |
| | 101 | 51-31695 | 2829-3134 | 359 | 51 | 19-02 | 9993-9801 | 2 | 6 | 8-48 | 58-3987 | 1 | 57 | 27-56 | 54-3788 |
| | 102 | 50-45312 | 2856-6913 | 0 | 50 | 27-19 | 23-3579 | 2 | 5 | 38-32 | 58-1600 | 2 | 56 | 5-51 | 81-5240 |
| | 103 | 49-58929 | 2884-0691 | 1 | 49 | 35-26 | 50-7358 | 2 | 5 | 8-16 | 57-9353 | 3 | 54 | 43-52 | 108-0691 |
| | 104 | 48-72547 | 2911-4470 | 2 | 48 | 43-53 | 78-1130 | 2 | 4 | 38-00 | 57-7066 | 4 | 53 | 21-53 | 135-8143 |
| | 105 | 47-86164 | 2938-8248 | 3 | 47 | 51-70 | 105-4915 | 2 | 4 | 1-14 | 57-4162 | 5 | 51 | 52-84 | 162-9677 |
| | 106 | 46-99781 | 2966-2027 | 4 | 46 | 59-87 | 132-8094 | 2 | 3 | 22-70 | 57-1196 | 6 | 50 | 22-57 | 189-9890 |
| | 107 | 46-13398 | 2993-5805 | 5 | 46 | 8-04 | 160-2472 | 2 | 2 | 44-26 | 56-8290 | 7 | 48 | 52-30 | 217-0702 |
| | 108 | 45-27015 | 3020-9584 | 6 | 45 | 16-21 | 187-6251 | 2 | 2 | 5-79 | 56-5261 | 8 | 47 | 22-00 | 244-1512 |
| | 109 | 44-40632 | 3048-3363 | 7 | 44 | 24-38 | 215-0629 | 2 | 1 | 10-07 | 56-1657 | 9 | 45 | 43-45 | 271-1686 |
| | 110 | 43-54250 | 3075-7141 | 8 | 43 | 32-55 | 242-3808 | 2 | 0 | 32-35 | 55-8052 | 10 | 44 | 4-00 | 298-1860 |
| | 111 | 42-67867 | 3103-0920 | 9 | 42 | 40-72 | 269-7586 | 1 | 59 | 45-03 | 55-4447 | 11 | 42 | 20-35 | 325-2633 |
| | 112 | 41-81484 | 3130-4698 | 10 | 41 | 48-89 | 297-1365 | 1 | 58 | 57-27 | 55-0715 | 12 | 40 | 46-15 | 352-2080 |
| | 113 | 40-95101 | 3157-8477 | 11 | 40 | 57-06 | 324-5144 | 1 | 58 | 2-26 | 54-6471 | 13 | 38 | 59-33 | 379-1615 |
| 114 | 40-08718 | 3185-2255 | 12 | 40 | 5-23 | 351-8922 | 1 | 57 | 7-27 | 54-2228 | 14 | 37 | 12-50 | 406-1150 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------------------|--------------|-----------|-------------|-----------|------------|---------|-------------|-----------|
| 10 | 115 39-22335 | 3212-4034 | 13 39 13-40 | 379-2701 | 1 56 12-27 | 53-7984 | 15 35 25-67 | 433-0685 |
| 17 | 116 38-35952 | 3239-0813 | 14 38 21-57 | 400-6479 | 1 55 14-24 | 53-3560 | 16 33 35-81 | 459-0985 |
| 18 | 117 37-46570 | 3267-3591 | 15 37 29-74 | 434-0258 | 1 54 11-55 | 52-8069 | 17 31 41-30 | 52-8927 |
| 19 | 118 36-63187 | 3294-7370 | 16 36 37-61 | 461-4036 | 1 53 8-87 | 52-3832 | 18 29 46-78 | 513-7869 |
| 20 | 119 35-70804 | 3322-1148 | 17 35 46-08 | 488-7815 | 1 52 6-19 | 51-8996 | 19 27 52-27 | 540-6811 |
| 21 | 120 34-00421 | 3349-4927 | 18 34 54-25 | 510-1594 | 1 50 58-96 | 51-3802 | 20 25 53-22 | 567-5402 |
| 22 | 121 34-04058 | 3376-8705 | 19 34 2-42 | 543-5372 | 1 49 48-59 | 50-8379 | 21 23 51-01 | 594-3751 |
| 23 | 122 33-17655 | 3404-2484 | 20 33 10-59 | 570-9151 | 1 48 38-22 | 50-2949 | 22 21 48-81 | 621-2100 |
| 24 | 123 32-31273 | 3431-6263 | 21 32 18-76 | 598-2929 | 1 47 27-85 | 49-7519 | 23 19 46-61 | 648-0448 |
| 25 | 124 31-44890 | 3459-0041 | 22 31 26-03 | 625-6708 | 1 46 11-90 | 49-1659 | 24 17 38-84 | 674-8367 |
| 26 | 125 30-58507 | 3486-3820 | 23 30 35-10 | 653-0486 | 1 44 54-43 | 48-5682 | 25 15 29-54 | 701-6108 |
| 27 | 126 29-72124 | 3513-7598 | 24 29 43-27 | 680-4265 | 1 43 36-97 | 47-0704 | 26 13 20-24 | 728-3909 |
| 28 | 127 28-85741 | 3541-1377 | 25 28 51-44 | 707-8044 | 1 42 19-50 | 47-3727 | 27 11 10-04 | 755-1770 |
| 29 | 128 27-99358 | 3568-5155 | 26 27 59-62 | 735-1822 | 1 40 55-07 | 46-7212 | 28 8 54-68 | 781-9634 |
| 30 | 129 27-12976 | 3595-8934 | 27 27 7-79 | 762-5601 | 1 39 30-50 | 46-0687 | 29 6 38-29 | 808-6288 |
| <i>At true Vrishabha-sank.</i> | 130 27-79443 | 3623-2711 | 28 27 47-67 | 787-8678 | 1 38 12-53 | 45-4655 | 39 0 0-0 | 833-3 |
| 31 | 130 26-26593 | 3650-2713 | 28 26 15-06 | 789-6379 | 1 38 5-04 | 45-4102 | 30 4 21-30 | 835-3541 |
| 32 | 131 25-40210 | 3678-0491 | 29 25 24-13 | 817-3158 | 1 36 40-23 | 44-7548 | 31 2 4-36 | 862-6706 |
| 33 | 132 24-53827 | 3678-0270 | 30 24 32-30 | 844-6936 | 1 35 10-16 | 44-0522 | 31 59 41-46 | 888-7438 |
| 34 | 133 23-67444 | 3705-4048 | 31 23 40-47 | 872-0715 | 1 33 38-09 | 43-3495 | 32 57 18-56 | 915-4210 |
| 35 | 134 22-81061 | 3732-7827 | 32 22 48-64 | 899-4494 | 1 32 7-02 | 42-6468 | 33 54 53-63 | 942-6961 |
| 36 | 135 21-94678 | 3760-1605 | 33 21 56-81 | 926-8272 | 1 30 33-76 | 41-9271 | 34 52 30-56 | 968-7544 |
| 37 | 136 21-08296 | 3787-5384 | 34 21 4-98 | 954-2051 | 1 28 56-77 | 41-1788 | 35 50 1-75 | 995-3839 |
| 38 | 137 20-21913 | 3814-9163 | 35 20 13-15 | 981-5829 | 1 27 10-79 | 40-4305 | 36 47 32-94 | 1022-0134 |
| 39 | 138 19-35530 | 3842-2941 | 36 19 21-32 | 1008-9608 | 1 25 42-81 | 39-6821 | 37 45 4-13 | 1048-6429 |
| 40 | 139 18-49174 | 3869-6720 | 37 18 29-49 | 1036-3386 | 1 24 2-47 | 38-9080 | 38 42 31-90 | 1075-2466 |
| 41 | 140 17-62764 | 3897-0498 | 38 17 37-66 | 1063-7165 | 1 22 19-58 | 38-1140 | 39 39 57-24 | 1101-8305 |
| 42 | 141 16-76381 | 3924-4277 | 39 16 45-83 | 1091-0944 | 1 20 36-68 | 37-3201 | 40 37 22-51 | 1128-4144 |
| 43 | 142 15-89990 | 3951-8055 | 40 15 54-00 | 1118-4722 | 1 18 53-78 | 36-5261 | 41 34 47-78 | 1154-9983 |
| 44 | 143 15-03616 | 3979-1834 | 41 15 2-17 | 1145-8501 | 1 17 6-83 | 35-7609 | 42 32 9-00 | 1181-5510 |
| 45 | 144 14-17233 | 4006-5613 | 42 14 10-34 | 1173-2279 | 1 15 18-61 | 34-8650 | 43 29 28-95 | 1208-0938 |
| 46 | 145 13-30850 | 4033-9391 | 43 13 18-51 | 1200-6058 | 1 13 30-40 | 34-0308 | 44 26 48-91 | 1234-6366 |
| 47 | 146 12-44467 | 4061-3170 | 44 12 30-68 | 1227-0836 | 1 11 42-18 | 33-1968 | 45 24 8-86 | 1261-1794 |
| 48 | 147 11-58084 | 4088-6948 | 45 11 34-85 | 1255-3615 | 1 9 46-43 | 32-3259 | 46 21 24-28 | 1287-6874 |
| 49 | 148 10-71702 | 4116-0727 | 46 10 43-02 | 1282-7394 | 1 7 56-48 | 31-4543 | 47 18 39-50 | 1314-1937 |
| 50 | 149 9-85319 | 4143-4505 | 47 9 51-19 | 1310-1172 | 1 6 3-53 | 30-5828 | 48 15 54-72 | 1340-7000 |

TABLE XLVIII A—Contd.

1st Arya-Siddhanta.

| 24-hour periods from true Mṛgha-samkrānti. | Sun's mean anomaly (or mean sun's distance from perigee- point) ($^{\circ}C^{\circ}$). | | | Sun's mean longitude. | | | Sun's equation of the centre. + | | | Sun's true longitude ($^{\circ}S^{\circ}$). | | |
|---|---|-------------------------|-----------|-------------------------|----|-------------------------|------------------------------------|-------------------------|----|--|-----------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
| | | | | | | | | | | | | |
| | | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | | |
| 51 | 150 | 8-08036 | 4170-8284 | 48 | 8 | 59-36 | 1337-4951 | 49 | 13 | 9-22 | 1307-2008 | |
| 52 | 151 | 8-12553 | 4198-2063 | 49 | 8 | 7-53 | 1364-8729 | 50 | 10 | 19-71 | 1393-0706 | |
| 53 | 152 | 7-20170 | 4225-5841 | 50 | 7 | 15-70 | 1392-2508 | 51 | 7 | 30-20 | 1420-1404 | |
| 54 | 153 | 6-39787 | 4252-9620 | 51 | 6 | 23-87 | 1419-6286 | 52 | 4 | 40-09 | 1446-0163 | |
| 55 | 154 | 5-59404 | 4280-3398 | 52 | 5 | 32-04 | 1447-0065 | 53 | 1 | 49-05 | 1473-0793 | |
| 56 | 155 | 4-67022 | 4307-7177 | 53 | 4 | 40-21 | 1474-3844 | 54 | 58 | 56-89 | 1499-5130 | |
| 57 | 156 | 3-86639 | 4335-0955 | 54 | 3 | 48-38 | 1501-7622 | 55 | 53 | 3-83 | 1525-9535 | |
| 58 | 157 | 2-04256 | 4362-4734 | 55 | 2 | 56-55 | 1529-1401 | 56 | 50 | 10-77 | 1552-3979 | |
| 59 | 158 | 2-07873 | 4389-8513 | 56 | 2 | 4-72 | 1556-5179 | 57 | 50 | 16-11 | 1578-8280 | |
| 60 | 159 | 1-21490 | 4417-2291 | 57 | 1 | 12-89 | 1583-8958 | 58 | 47 | 20-09 | 1605-2476 | |
| 61 | 160 | 0-33107 | 4444-6070 | 58 | 0 | 21-06 | 1611-2736 | 59 | 44 | 24-08 | 1631-0673 | |
| 62 | 160 | 59-48725 | 4471-9848 | 58 | 59 | 29-23 | 1638-6515 | 59 | 41 | 28-06 | 1658-0869 | |
| 63 | 161 | 18-69490 | 4480-8772 | 59 | 18 | 41-69 | 1647-5439 | 60 | 0 | 0-0 | 1666-6 | |
| 64 | 161 | 58-02342 | 4499-3627 | 59 | 58 | 37-41 | 1666-0294 | 60 | 38 | 29-80 | 1684-4897 | |
| 65 | 162 | 57-75559 | 4526-7466 | 60 | 57 | 45-58 | 1693-4072 | 61 | 35 | 30-89 | 1710-8665 | |
| 66 | 163 | 56-89576 | 4554-1184 | 61 | 56 | 53-75 | 1720-7851 | 62 | 32 | 31-92 | 1737-2833 | |
| 67 | 164 | 56-03193 | 4581-4963 | 62 | 56 | 1-02 | 1748-1629 | 63 | 29 | 32-95 | 1763-0801 | |
| 68 | 165 | 55-16810 | 4608-8741 | 63 | 55 | 10-09 | 1775-5408 | 64 | 26 | 31-77 | 1790-0599 | |
| 69 | 166 | 54-30428 | 4636-2520 | 64 | 54 | 18-26 | 1802-9186 | 65 | 23 | 30-43 | 1816-4385 | |
| 70 | 167 | 53-44045 | 4663-6298 | 65 | 53 | 26-43 | 1830-2965 | 66 | 20 | 29-09 | 1842-8171 | |
| 71 | 168 | 52-57662 | 4691-0077 | 66 | 52 | 34-60 | 1857-6744 | 67 | 17 | 27-53 | 1869-1939 | |
| 72 | 169 | 51-71279 | 4718-3856 | 67 | 51 | 42-77 | 1885-0522 | 68 | 14 | 24-41 | 1895-5588 | |
| 73 | 170 | 50-84896 | 4745-7634 | 68 | 50 | 50-94 | 1912-4301 | 69 | 11 | 21-30 | 1921-9230 | |

A: true Mṛgha-samkrānti.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--|--------------|-----------|-------------|-----------|------------|---------|-------------|-----------|
| | | | | | | | | |
| 73 | 171 49-08513 | 4773-1413 | 69 49 59-11 | 1939-8079 | 0 18 19-08 | 8-4800 | 70 8 18-19 | 1948-2883 |
| 74 | 172 49-12130 | 4800-5191 | 70 40 7-28 | 1967-1858 | 0 16 7-42 | 7-4610 | 71 5 13-70 | 1974-6504 |
| 75 | 173 48-25748 | 4827-8070 | 71 48 15-45 | 1994-5036 | 0 13 51-05 | 6-4426 | 72 2 10-40 | 2001-0662 |
| 76 | 174 47-39365 | 4855-2748 | 72 47 23-62 | 2021-9415 | 0 11 42-46 | 5-4204 | 72 56 6-11 | 2027-3619 |
| 77 | 175 46-52982 | 4882-0527 | 73 46 31-79 | 2049-3194 | 0 9 30-02 | 4-3983 | 73 56 1-81 | 2033-7177 |
| 78 | 176 45-66599 | 4910-0306 | 74 45 39-06 | 2076-6972 | 0 7 17-25 | 3-3739 | 74 52 57-21 | 2080-0711 |
| 79 | 177 44-80216 | 4937-4084 | 75 44 48-13 | 2104-0751 | 0 5 4-20 | 2-3472 | 75 43 52-32 | 2106-4229 |
| 80 | 178 43-93833 | 4964-7803 | 76 43 56-30 | 2131-4529 | 0 2 51-14 | 1-3265 | 76 46 47-44 | 2132-7734 |
| 81 | 179 43-07451 | 4992-1641 | 77 43 4-47 | 2158-8308 | 0 0 38-08 | 0-2938 | 77 43 42-52 | 2159-1240 |
| <i>Sun at 73° (apogee)</i> | | | | | | | | |
| | 180 0-0 | 5000-0 | 78 0 0-0 | 2166-6 | 0 0 0-0 | 0-0 | 78 0 0-0 | 2166-6 |
| (Sun's equation of centre is minus—, after his mean anomaly is 180° till it reaches 360° or 0°.) | | | | | | | | |
| Sun's equation of the centre | | | | | | | | |
| 82 | 180 42-21068 | 5019-5420 | 78 42 12-04 | 9180-3086 | 0 1 34-97 | 0-7258 | 78 40 37-07 | 2185-4758 |
| 83 | 181 41-34685 | 5046-9198 | 79 41 20-81 | 2213-5865 | 0 3 48-03 | 1-7385 | 79 37 32-78 | 2211-8276 |
| 84 | 182 40-48302 | 5074-2977 | 80 40 28-68 | 2240-9644 | 0 6 1-09 | 2-7802 | 80 34 27-80 | 2238-1782 |
| 85 | 183 39-61919 | 5101-6756 | 81 39 37-15 | 2268-3422 | 0 8 14-14 | 3-8128 | 81 31 23-01 | 2264-5294 |
| 86 | 184 38-75536 | 5129-0534 | 82 38 45-32 | 2295-7201 | 0 10 26-66 | 4-8354 | 82 28 18-05 | 2290-8847 |
| 87 | 185 37-89153 | 5156-4313 | 83 37 53-40 | 2323-0979 | 0 12 39-13 | 5-8575 | 83 25 14-37 | 2317-2405 |
| 88 | 186 37-02771 | 5183-8091 | 84 37 1-06 | 2350-4758 | 0 14 51-59 | 6-8796 | 84 22 10-07 | 2343-5902 |
| 89 | 187 36-16388 | 5211-1870 | 85 36 9-83 | 2377-8536 | 0 17 3-93 | 7-9007 | 85 19 5-90 | 2369-0399 |
| 90 | 188 35-30005 | 5238-5648 | 86 35 18-00 | 2405-2315 | 0 19 15-22 | 8-9137 | 86 16 2-79 | 2395-3178 |
| 91 | 189 34-43622 | 5265-9427 | 87 34 26-17 | 2432-6094 | 0 21 26-50 | 9-9267 | 87 12 59-67 | 2422-6827 |
| 92 | 190 33-57239 | 5293-3206 | 88 33 34-34 | 2459-9872 | 0 23 37-78 | 10-9397 | 88 9 56-56 | 2449-0476 |
| 93 | 191 32-70856 | 5320-6984 | 89 32 42-51 | 2487-3651 | 0 25 48-53 | 11-9485 | 89 6 53-98 | 2475-4165 |
| <i>At true Karka-sankranti.</i> | | | | | | | | |
| | 192 27-85045 | 5346-2122 | 90 27 49-23 | 2512-8798 | 0 27 49-22 | 12-8798 | 90 0 0-0 | 2500-0 |
| 94 | 192 31-84474 | 5384-0703 | 90 31 50-68 | 2514-7429 | 0 27 58-04 | 12-9478 | 90 3 52-04 | 2501-7951 |
| 95 | 193 30-98091 | 5375-4541 | 91 30 58-85 | 2542-1208 | 0 30 7-65 | 13-9471 | 91 0 51-31 | 2528-1737 |
| 96 | 194 30-11708 | 5402-8320 | 92 30 7-02 | 2569-4986 | 0 32 17-06 | 14-9404 | 91 57 49-97 | 2554-5522 |
| 97 | 195 29-25325 | 5430-2098 | 93 29 15-20 | 2596-8765 | 0 34 25-30 | 15-9367 | 92 54 49-80 | 2580-9398 |
| 98 | 196 28-38942 | 5457-5877 | 94 28 23-37 | 2624-2544 | 0 36 32-54 | 16-9177 | 93 51 50-83 | 2607-3266 |

TABLE XXVIII A—Contd.

1st Arya-Siddhanta.

| 24-hour periods from true Māha-samkranti. | Sun's mean anomaly or (mean sun's distance from perigee- point) (α_C). | | | Sun's mean longitude. | | | Sun's equation of the centre. | | | Sun's true longitude (α_S). | | | | | |
|--|--|---------|-------------------------|-----------------------|-----|----------|-------------------------------|---------|----------|---|----------|----------|-------------------------|---------|-----------|
| | 1 | 2 | 3 | 4 | | δ | 5 | | 6 | 7 | | 8 | 9 | | |
| | | | | \circ | r | | δ | \circ | | r | δ | | | \circ | r |
| | | \circ | 10,000ths of circle. | \circ | r | δ | \circ | r | δ | \circ | r | δ | 10,000ths of circle. | | |
| 99 | | 197 | 27-52599 | 95 | 27 | 31-54 | 2651-6322 | 0 | 38 | 39-08 | 17-8998 | 94 | 48 | 51-86 | 2633-7335 |
| 100 | | 198 | 26-66177 | 96 | 26 | 39-71 | 2679-0101 | 0 | 40 | 40-82 | 18-8798 | 95 | 45 | 52-88 | 2660-1303 |
| 101 | | 199 | 25-79794 | 97 | 25 | 47-88 | 2706-3870 | 0 | 42 | 51-93 | 19-8451 | 96 | 42 | 55-05 | 2686-5428 |
| 102 | | 200 | 24-93411 | 98 | 24 | 56-05 | 2733-7658 | 0 | 44 | 56-11 | 20-8033 | 97 | 39 | 59-03 | 2712-9625 |
| 103 | | 201 | 24-07028 | 99 | 24 | 4-22 | 2761-1436 | 0 | 47 | 0-30 | 21-7616 | 98 | 37 | 3-02 | 2739-3821 |
| 104 | | 202 | 23-20645 | 100 | 23 | 12-39 | 2788-5215 | 0 | 49 | 4-48 | 22-7198 | 99 | 34 | 7-00 | 2765-8017 |
| 105 | | 203 | 22-34262 | 101 | 22 | 20-56 | 2815-8994 | 0 | 51 | 6-05 | 23-6578 | 100 | 31 | 14-51 | 2792-2416 |
| 106 | | 204 | 21-47879 | 102 | 21 | 28-73 | 2843-2772 | 0 | 53 | 7-28 | 24-5932 | 101 | 28 | 21-45 | 2818-0840 |
| 107 | | 205 | 20-61497 | 103 | 20 | 36-90 | 2870-6551 | 0 | 55 | 8-51 | 25-5286 | 102 | 25 | 28-37 | 2845-1264 |
| 108 | | 206 | 19-75114 | 104 | 19 | 45-07 | 2898-0329 | 0 | 57 | 9-45 | 26-4618 | 103 | 22 | 35-61 | 2871-5711 |
| 109 | | 207 | 18-88731 | 105 | 18 | 53-24 | 2925-4108 | 0 | 59 | 7-14 | 27-3699 | 104 | 19 | 46-10 | 2898-0409 |
| 110 | | 208 | 18-02348 | 106 | 18 | 1-41 | 2952-7886 | 1 | 1 | 4-82 | 28-2779 | 105 | 16 | 56-59 | 2924-5107 |
| 111 | | 209 | 17-15965 | 107 | 17 | 9-58 | 2980-1665 | 1 | 3 | 2-30 | 29-1859 | 106 | 14 | 7-09 | 2950-9806 |
| 112 | | 210 | 16-29582 | 108 | 16 | 17-75 | 3007-5444 | 1 | 4 | 58-88 | 30-0839 | 107 | 11 | 18-87 | 2977-4905 |
| 113 | | 211 | 15-43200 | 109 | 15 | 25-92 | 3034-9222 | 1 | 6 | 51-83 | 30-9554 | 108 | 8 | 34-09 | 3003-0608 |
| 114 | | 212 | 14-56817 | 110 | 14 | 34-09 | 3062-3001 | 1 | 8 | 44-78 | 31-8270 | 109 | 5 | 49-31 | 3030-4751 |
| 115 | | 213 | 13-70434 | 111 | 13 | 42-26 | 3089-6779 | 1 | 10 | 37-73 | 32-6985 | 110 | 3 | 4-54 | 3056-8794 |
| 116 | | 214 | 12-84051 | 112 | 12 | 50-43 | 3117-0558 | 1 | 12 | 29-45 | 33-5628 | 111 | 0 | 21-08 | 3083-5030 |
| 117 | | 215 | 11-97668 | 113 | 11 | 58-60 | 3144-4336 | 1 | 14 | 10-07 | 34-3879 | 111 | 57 | 41-03 | 3110-0458 |
| 118 | | 216 | 11-11285 | 114 | 11 | 6-77 | 3171-8115 | 1 | 16 | 4-89 | 35-2229 | 112 | 55 | 1-88 | 3136-5896 |
| 119 | | 217 | 10-24902 | 115 | 10 | 14-94 | 3198-1894 | 1 | 17 | 53-11 | 36-0579 | 113 | 52 | 21-83 | 3163-1314 |
| 120 | | 218 | 9-38520 | 116 | 9 | 23-11 | 3226-5672 | 1 | 19 | 37-78 | 36-8656 | 114 | 49 | 45-33 | 3189-7016 |
| 121 | | 219 | 8-52137 | 117 | 8 | 31-28 | 3253-9451 | 1 | 21 | 20-08 | 37-6595 | 115 | 47 | 10-61 | 3216-2855 |
| 122 | | 220 | 7-65754 | 118 | 7 | 39-45 | 3281-3229 | 1 | 23 | 3-57 | 38-4635 | 116 | 44 | 35-88 | 3242-8694 |
| 123 | | 221 | 6-79371 | 119 | 6 | 47-62 | 3308-7008 | 1 | 24 | 46-47 | 39-2475 | 117 | 42 | 1-15 | 3269-4533 |
| 124 | | 222 | 5-92988 | 120 | 5 | 55-79 | 3336-0786 | 1 | 26 | 24-27 | 40-0021 | 118 | 39 | 31-52 | 3296-0765 |
| 125 | | 223 | 5-06605 | 121 | 5 | 3-96 | 3363-4565 | 1 | 28 | 1-26 | 40-7505 | 119 | 37 | 2-71 | 3322-7061 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------------|--------------|-----------|--------------|-----------|------------|----------|--------------|-----------|
| At true Sidhant Shikhar. | | | | | | | | |
| 125 | 223 28-06004 | 6207-7158 | 121 28 39-98 | 3374-3824 | 1 28 39-89 | 47-0-101 | 129 0 0-9 | 3333-3 |
| 126 | 224 4-20223 | 6224-1077 | 122 4 12-13 | 3390-8344 | 1 20 38-24 | 41-4-988 | 120 34 53-80 | 3349-3806 |
| 127 | 225 3-33840 | 6251-9456 | 123 3 9-30 | 3418-2122 | 1 31 14-89 | 42-24-45 | 121 32 5-41 | 3376-0077 |
| 128 | 226 2-47457 | 6278-9234 | 124 2 8-47 | 3446-3501 | 1 32 45-96 | 42-54-72 | 122 29 42-51 | 3402-0429 |
| 129 | 227 1-01074 | 6306-8013 | 125 1 7-54 | 3472-9079 | 1 34 17-03 | 43-64-09 | 123 27 19-01 | 3429-3180 |
| 130 | 228 0-74691 | 6333-6791 | 126 0 44-51 | 3500-3458 | 1 35 48-10 | 44-33-26 | 124 24 50-71 | 3455-9052 |
| 131 | 229 59-88508 | 6361-0570 | 126 50 52-90 | 3527-7236 | 1 37 17-53 | 45-04-27 | 125 22 35-45 | 3482-6810 |
| 132 | 230 59-01926 | 6388-4348 | 127 39 1-16 | 3555-1015 | 1 38 42-10 | 45-00-52 | 126 20 19-06 | 3509-4003 |
| 133 | 231 58-15543 | 6415-8127 | 128 58 9-33 | 3582-4794 | 1 40 0-60 | 46-34-77 | 127 18 2-00 | 3536-1817 |
| 134 | 232 57-29100 | 6443-1906 | 129 57 17-50 | 3609-5572 | 1 41 31-23 | 47-00-02 | 128 16 46-27 | 3562-8570 |
| 135 | 233 56-42777 | 6470-5684 | 130 56 25-67 | 3637-2351 | 1 42 52-62 | 47-02-52 | 129 13 33-05 | 3589-0068 |
| 136 | 234 55-56394 | 6497-9463 | 131 55 33-84 | 3664-6129 | 1 44 10-09 | 48-22-51 | 130 11 29-75 | 3616-3809 |
| 137 | 235 54-70011 | 6525-3241 | 132 54 42-01 | 3691-9908 | 1 45 27-56 | 48-82-98 | 131 0 14-45 | 3643-1670 |
| 138 | 236 53-83628 | 6552-7020 | 133 53 50-18 | 3719-3687 | 1 46 45-03 | 49-42-15 | 132 7 5-16 | 3669-9472 |
| 139 | 237 52-97246 | 6580-0798 | 134 52 58-35 | 3746-7465 | 1 47 57-04 | 49-59-41 | 133 5 0-41 | 3696-7034 |
| 140 | 238 52-10863 | 6607-4577 | 135 52 0-52 | 3774-1244 | 1 49 8-31 | 50-52-71 | 134 2 53-21 | 3723-5973 |
| 141 | 239 51-24480 | 6634-8356 | 136 51 14-69 | 3801-5022 | 1 50 18-68 | 51-07-01 | 135 0 50-01 | 3750-4322 |
| 142 | 240 50-38097 | 6662-2134 | 137 50 22-86 | 3828-8801 | 1 51 28-05 | 51-61-31 | 135 58 53-80 | 3777-2070 |
| 143 | 241 49-51714 | 6689-5913 | 138 49 31-03 | 3856-2579 | 1 52 32-09 | 52-10-64 | 136 56 58-04 | 3804-1515 |
| 144 | 242 48-65331 | 6716-0691 | 139 48 39-20 | 3883-6358 | 1 53 35-67 | 52-59-01 | 137 55 3-53 | 3831-0457 |
| 145 | 243 47-78949 | 6744-3470 | 140 47 47-37 | 3911-0137 | 1 54 38-36 | 53-07-37 | 138 53 9-01 | 3857-9390 |
| 146 | 244 46-92566 | 6771-7248 | 141 46 55-54 | 3938-3913 | 1 55 41-04 | 53-55-74 | 139 51 14-50 | 3884-8341 |
| 147 | 245 46-06183 | 6799-1027 | 142 46 3-71 | 3965-7694 | 1 56 35-79 | 53-97-98 | 140 49 27-02 | 3911-7895 |
| 148 | 246 45-19800 | 6826-4866 | 143 45 11-88 | 3993-1472 | 1 57 30-78 | 54-40-42 | 141 47 41-10 | 3938-7430 |
| 149 | 247 44-33417 | 6853-8584 | 144 44 20-05 | 4020-5251 | 1 58 25-78 | 54-82-86 | 142 45 54-27 | 3965-6965 |
| 150 | 248 43-47034 | 6881-2303 | 145 43 29-22 | 4047-9039 | 1 59 18-80 | 55-23-84 | 143 44 9-33 | 3992-4646 |
| 151 | 249 42-60652 | 6908-6141 | 146 42 30-39 | 4075-2808 | 2 0 5-61 | 55-59-88 | 144 42 30-75 | 4019-0820 |
| 152 | 250 41-74269 | 6935-9920 | 147 41 44-56 | 4102-6587 | 2 0 52-33 | 56-03-03 | 145 40 52-23 | 4046-0993 |
| 153 | 251 40-87886 | 6963-3698 | 148 40 52-73 | 4130-0365 | 2 1 39-04 | 56-31-98 | 146 39 13-69 | 4073-7167 |
| 154 | 252 40-01503 | 6990-7477 | 149 40 0-90 | 4157-4144 | 2 2 22-26 | 56-65-32 | 147 37 38-64 | 4100-7011 |
| 155 | 253 39-15120 | 7018-1256 | 150 39 9-07 | 4185-7922 | 2 3 0-70 | 56-94-98 | 148 36 8-37 | 4127-8424 |
| 156 | 254 38-28737 | 7045-5034 | 151 38 17-24 | 4212-1701 | 2 3 39-14 | 57-24-64 | 149 34 38-11 | 4154-9237 |

TABLE XLVIII A—Contd.

1st Arya-siddhānta.

| 24-hour periods from true Mēsha-samkrānti. | Sun's mean anomaly (or mean sun's distance from perige- point) ($^{\circ}C''$). | | | Sun's mean longitude. | | Sun's equation of the centre. | | Sun's true longitude ($^{\circ}S''$). | | |
|---|--|-----------|-----------|-----------------------|-----------|-------------------------------|---------|--|-----|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 | 9 |
| | | | | | | \odot | \circ | | | |
| <i>At true Kanyā-samkrānti.</i> | | 254 | 7067-3734 | 152 | 4224-0417 | 2 | 55-80 | 57-3751 | 150 | 1166-6 |
| 157 | 254 | 7072-8813 | 152 | 4230-5479 | 3 | 55-80 | 57-5430 | 57-5430 | 150 | 4182-0049 |
| 158 | 255 | 7100-2501 | 153 | 4266-9258 | 4 | 55-80 | 57-8001 | 57-8001 | 151 | 4269-1257 |
| 159 | 256 | 7127-0370 | 154 | 4294-3037 | 5 | 55-80 | 58-0328 | 58-0328 | 152 | 4294-2708 |
| 160 | 257 | 7155-0148 | 155 | 4321-0815 | 6 | 55-80 | 58-2655 | 58-2655 | 153 | 4293-4100 |
| 161 | 258 | 7182-3927 | 156 | 4349-0594 | 7 | 55-80 | 58-4983 | 58-4983 | 154 | 4290-5611 |
| 162 | 259 | 7209-7706 | 157 | 4376-4372 | 8 | 55-80 | 58-7307 | 58-7307 | 155 | 4317-7582 |
| 163 | 260 | 7237-1484 | 158 | 4403-8151 | 9 | 55-80 | 58-9630 | 58-9630 | 156 | 4344-9672 |
| 164 | 261 | 7264-5263 | 159 | 4431-1929 | 10 | 55-80 | 59-1953 | 59-1953 | 157 | 4372-1763 |
| 165 | 262 | 7291-9041 | 160 | 4458-5708 | 11 | 55-80 | 59-4276 | 59-4276 | 158 | 4399-3850 |
| 166 | 263 | 7319-2820 | 161 | 4485-9487 | 12 | 55-80 | 59-6600 | 59-6600 | 159 | 4426-6634 |
| 167 | 264 | 7346-6598 | 162 | 4513-3265 | 13 | 55-80 | 59-8923 | 59-8923 | 160 | 4453-9408 |
| 168 | 265 | 7374-0377 | 163 | 4540-7044 | 14 | 55-80 | 59-1247 | 59-1247 | 161 | 4481-2183 |
| 169 | 266 | 7401-4156 | 164 | 4568-0822 | 15 | 55-80 | 59-3570 | 59-3570 | 162 | 4508-4957 |
| 170 | 267 | 7428-7934 | 165 | 4595-4601 | 16 | 55-80 | 59-5894 | 59-5894 | 163 | 4535-8557 |
| 171 | 268 | 7456-1713 | 166 | 4622-8379 | 17 | 55-80 | 59-8217 | 59-8217 | 164 | 4563-2016 |
| 172 | 269 | 7483-5491 | 167 | 4650-2158 | 18 | 55-80 | 59-1051 | 59-1051 | 165 | 4590-5475 |
| 173 | 270 | 7510-9270 | 168 | 4677-5937 | 19 | 55-80 | 59-3375 | 59-3375 | 166 | 4617-8934 |
| 174 | 271 | 7538-3048 | 169 | 4704-9715 | 20 | 55-80 | 59-5698 | 59-5698 | 167 | 4645-3287 |
| 175 | 272 | 7565-6827 | 170 | 4732-3494 | 21 | 55-80 | 59-8022 | 59-8022 | 168 | 4672-7385 |
| 176 | 273 | 7593-0606 | 171 | 4759-7272 | 22 | 55-80 | 59-1036 | 59-1036 | 169 | 4700-1483 |
| 177 | 274 | 7620-4384 | 172 | 4787-1051 | 23 | 55-80 | 59-3360 | 59-3360 | 170 | 4727-5988 |
| 178 | 275 | 7647-8163 | 173 | 4814-4829 | 24 | 55-80 | 59-5684 | 59-5684 | 171 | 4755-0770 |
| 179 | 276 | 7675-1941 | 174 | 4841-8608 | 25 | 55-80 | 59-8007 | 59-8007 | 172 | 4782-5553 |
| 180 | 277 | 7702-5720 | 175 | 4869-2387 | 26 | 55-80 | 59-1031 | 59-1031 | 173 | 4810-0335 |
| 181 | 278 | 7729-9498 | 176 | 4896-6165 | 27 | 55-80 | 59-3355 | 59-3355 | 174 | 4837-5058 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | |
|------------------------|----------|-----------|-----|----|-------|-----------|---|----|-------|---------|-----|----|-------|-----------|
| 182 | 279 | 13-62783 | 177 | 15 | 40-07 | 4923-9044 | 2 | 7 | 11-09 | 58-8819 | 175 | 8 | 38-58 | 4865-1195 |
| 183 | 280 | 14-06601 | 178 | 14 | 37-84 | 4931-3722 | 2 | 6 | 49-21 | 58-7131 | 176 | 8 | 8-03 | 4893-0592 |
| 184 | 281 | 14-10918 | 179 | 14 | 6-01 | 4978-7501 | 2 | 0 | 27-33 | 58-5442 | 177 | 7 | 38-68 | 4925-2058 |
| 185 | 282 | 13-23035 | 180 | 13 | 14-18 | 5000-1279 | 2 | 5 | 57-30 | 58-3125 | 178 | 7 | 16-38 | 4947-8154 |
| 186 | 283 | 12-37252 | 181 | 12 | 22-35 | 5033-0698 | 2 | 5 | 27-14 | 58-0708 | 179 | 6 | 55-21 | 4975-4260 |
| At true Tuld an phbadi | | | | | | | | | | | | | | |
| 284 | 5-09-496 | 7891-2002 | 182 | 5 | 0-30 | 5057-8727 | 2 | 5 | 0-30 | 57-8727 | 189 | 0 | 0-0 | 5060-0 |
| 284 | 11-50869 | 7894-2170 | 182 | 11 | 30-52 | 5060-8837 | 2 | 4 | 56-68 | 57-8471 | 180 | 6 | 33-54 | 5063-0366 |
| 285 | 10-64486 | 7921-5948 | 183 | 10 | 38-09 | 5088-2615 | 2 | 4 | 25-03 | 57-6029 | 181 | 6 | 13-36 | 5090-0586 |
| 286 | 9-78103 | 7948-0727 | 184 | 9 | 46-86 | 5115-0304 | 2 | 3 | 46-89 | 57-3603 | 182 | 5 | 59-07 | 5058-3331 |
| 287 | 8-91721 | 7976-3506 | 185 | 8 | 55-03 | 5143-0172 | 2 | 3 | 8-45 | 57-0007 | 183 | 5 | 46-58 | 5089-0076 |
| 288 | 8-05338 | 8003-7284 | 186 | 8 | 3-20 | 5170-3051 | 2 | 2 | 30-02 | 56-7131 | 184 | 5 | 33-19 | 5113-6820 |
| 289 | 7-18955 | 8031-1063 | 187 | 7 | 11-37 | 5197-7729 | 2 | 1 | 48-47 | 56-3025 | 185 | 5 | 22-30 | 5141-3804 |
| 290 | 6-32572 | 8058-4841 | 188 | 6 | 19-54 | 5225-1608 | 2 | 1 | 1-75 | 56-0320 | 186 | 5 | 17-79 | 5169-1188 |
| 291 | 5-46189 | 8086-8620 | 189 | 5 | 27-71 | 5252-6287 | 2 | 0 | 10-04 | 55-6716 | 187 | 5 | 12-68 | 5196-8571 |
| 292 | 4-59806 | 8113-2398 | 190 | 4 | 35-88 | 5279-0065 | 1 | 59 | 28-32 | 55-3111 | 188 | 5 | 7-07 | 5224-5954 |
| 293 | 3-73423 | 8140-6177 | 191 | 3 | 44-05 | 5307-2844 | 1 | 48 | 36-88 | 54-9142 | 189 | 5 | 7-18 | 5252-3702 |
| 294 | 2-87041 | 8167-9956 | 192 | 2 | 52-22 | 5334-6622 | 1 | 57 | 41-88 | 54-4898 | 190 | 5 | 10-34 | 5280-1724 |
| 295 | 2-00658 | 8195-3734 | 193 | 2 | 0-39 | 5362-0401 | 1 | 56 | 46-88 | 54-0655 | 191 | 5 | 13-51 | 5307-0746 |
| 296 | 1-14275 | 8222-7513 | 194 | 1 | 8-57 | 5389-4178 | 1 | 55 | 51-89 | 53-6411 | 192 | 5 | 16-68 | 5335-7708 |
| 297 | 0-27892 | 8250-1291 | 195 | 0 | 16-74 | 5416-7958 | 1 | 54 | 51-00 | 53-1713 | 193 | 5 | 25-73 | 5363-6245 |
| 297 | 59-41500 | 8277-5070 | 195 | 59 | 24-61 | 5444-1737 | 1 | 53 | 48-32 | 52-6877 | 194 | 5 | 39-59 | 5391-4860 |
| 298 | 58-55127 | 8304-8848 | 196 | 58 | 33-08 | 5471-5515 | 1 | 52 | 45-64 | 52-2640 | 195 | 5 | 47-44 | 5419-3475 |
| 299 | 57-68744 | 8332-2627 | 197 | 57 | 41-25 | 5498-9294 | 1 | 51 | 42-05 | 51-7203 | 196 | 5 | 58-29 | 5447-2091 |
| 300 | 56-82361 | 8359-6406 | 198 | 56 | 49-42 | 5526-3072 | 1 | 50 | 32-88 | 51-1766 | 197 | 6 | 16-54 | 5475-1276 |
| 301 | 55-95978 | 8387-0184 | 199 | 55 | 57-59 | 5553-5851 | 1 | 49 | 22-51 | 50-6366 | 198 | 6 | 35-08 | 5503-0484 |
| 302 | 55-09595 | 8414-3963 | 200 | 55 | 5-76 | 5581-0629 | 1 | 48 | 12-14 | 50-0030 | 199 | 6 | 53-02 | 5530-0693 |
| 303 | 54-23212 | 8441-7741 | 201 | 54 | 13-93 | 5608-4408 | 1 | 47 | 0-66 | 49-5421 | 200 | 7 | 13-27 | 5558-8987 |
| 304 | 53-36829 | 8469-1520 | 202 | 53 | 22-10 | 5635-8187 | 1 | 45 | 43-19 | 48-9443 | 201 | 7 | 38-91 | 5586-8743 |
| 305 | 52-50447 | 8496-5298 | 203 | 52 | 30-27 | 5663-1965 | 1 | 44 | 25-72 | 48-3466 | 202 | 8 | 4-55 | 5614-8499 |
| 306 | 51-64064 | 8523-9077 | 204 | 51 | 38-44 | 5690-5744 | 1 | 43 | 8-25 | 47-7488 | 203 | 8 | 30-19 | 5642-8255 |
| 307 | 50-77681 | 8551-2850 | 205 | 50 | 46-61 | 5717-9522 | 1 | 41 | 48-29 | 47-1319 | 204 | 8 | 58-32 | 5670-8204 |
| 308 | 49-91298 | 8578-6634 | 206 | 49 | 54-78 | 5745-3301 | 1 | 40 | 23-72 | 46-4794 | 205 | 9 | 31-05 | 5698-8507 |
| 309 | 49-04915 | 8606-0413 | 207 | 49 | 2-95 | 5772-7079 | 1 | 38 | 59-16 | 45-8268 | 206 | 10 | 3-70 | 5726-8811 |
| 310 | 48-18532 | 8633-4191 | 208 | 48 | 11-12 | 5800-0858 | 1 | 37 | 34-59 | 45-1743 | 207 | 10 | 36-52 | 5754-9115 |
| 311 | 47-32150 | 8660-7970 | 209 | 47 | 19-20 | 5827-4637 | 1 | 36 | 6-47 | 44-4944 | 208 | 11 | 12-81 | 5782-9693 |
| 312 | 46-45767 | 8688-1748 | 210 | 46 | 27-46 | 5854-8415 | 1 | 34 | 35-41 | 43-7917 | 209 | 11 | 52-05 | 5811-0498 |

TABLE XLVIII A—Contd.

1st Arya Siddhanta.

| 24-hour periods from true Mēṣa-sāmkraṇti. | Sun's mean anomaly (or mean sun's distance from perigeo- point) ($^{\circ}, \frac{1}{2}^{\circ}$). | | | Sun's mean Longitude. | | Sun's equation of the centre. | | Sun's true Longitude ($^{\circ}, \frac{1}{2}^{\circ}$). | |
|--|---|----------|-------------------------|-----------------------|-------------------------|-------------------------------|-------------------------|---|-------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | | | | | | | |
| | | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. |
| At true Vṛchikā-sāmk. | | 313 | 33-35561 | 211 | 33-23-14 | 1 | 33-23-14 | 210 | 33-0 |
| 217 | 313 | 45-59384 | 8715-5527 | 211 | 45-35-63 | 1 | 33-4-34 | 210 | 12-31-29 |
| 218 | 314 | 44-73001 | 8742-9300 | 212 | 44-43-80 | 1 | 31-33-27 | 211 | 13-10-53 |
| 219 | 315 | 43-86618 | 8770-3084 | 213 | 43-51-97 | 1 | 29-57-81 | 212 | 13-54-16 |
| 220 | 316 | 43-00235 | 8797-6803 | 214 | 43-0-14 | 1 | 28-20-83 | 213 | 14-39-32 |
| 221 | 317 | 42-13853 | 8825-0541 | 215 | 42-8-31 | 1 | 26-43-84 | 214 | 15-24-47 |
| 222 | 318 | 41-27470 | 8852-4420 | 216 | 41-16-48 | 1 | 25-6-86 | 215 | 16-9-62 |
| 223 | 319 | 40-41087 | 8879-8198 | 217 | 40-24-65 | 1 | 23-24-34 | 216 | 17-0-32 |
| 224 | 320 | 39-54704 | 8907-1977 | 218 | 39-32-82 | 1 | 21-41-44 | 217 | 17-51-38 |
| 225 | 321 | 38-68321 | 8934-5755 | 219 | 38-40-99 | 1 | 19-58-54 | 218 | 18-42-45 |
| 226 | 322 | 37-81938 | 8961-9534 | 220 | 37-49-16 | 1 | 18-14-94 | 219 | 19-34-22 |
| 227 | 323 | 36-95555 | 8989-3313 | 221 | 36-57-33 | 1 | 16-20-72 | 220 | 20-30-61 |
| 228 | 324 | 36-09173 | 9016-7091 | 222 | 36-5-50 | 1 | 14-38-50 | 221 | 21-27-00 |
| 229 | 325 | 35-22790 | 9044-0870 | 223 | 35-13-67 | 1 | 12-50-28 | 222 | 22-23-39 |
| 230 | 326 | 34-36407 | 9071-4648 | 224 | 34-21-84 | 1 | 11-0-51 | 223 | 23-21-33 |
| 231 | 327 | 33-50024 | 9098-8427 | 225 | 33-30-01 | 1 | 9-7-56 | 224 | 24-22-45 |
| 232 | 328 | 32-63641 | 9126-2206 | 226 | 32-38-18 | 1 | 7-14-61 | 225 | 25-23-57 |
| 233 | 329 | 31-77258 | 9153-5984 | 227 | 31-46-36 | 1 | 5-21-66 | 226 | 26-24-69 |
| 234 | 330 | 30-90876 | 9180-9763 | 228 | 30-54-52 | 1 | 3-28-64 | 227 | 27-25-28 |
| 235 | 331 | 30-04493 | 9208-3541 | 229 | 30-2-70 | 1 | 1-28-66 | 228 | 28-24-13 |
| 236 | 332 | 29-18110 | 9235-7320 | 230 | 29-10-87 | 0 | 50-30-88 | 229 | 29-39-99 |
| 237 | 333 | 28-31727 | 9263-1098 | 231 | 28-19-04 | 0 | 57-33-20 | 230 | 30-45-84 |
| 238 | 334 | 27-45344 | 9290-4877 | 232 | 27-27-21 | 0 | 55-32-97 | 231 | 31-54-24 |
| 239 | 335 | 26-58961 | 9317-8656 | 233 | 26-35-38 | 0 | 53-31-74 | 232 | 33-3-64 |
| 240 | 336 | 25-72578 | 9345-2434 | 234 | 25-43-55 | 0 | 51-30-51 | 233 | 34-13-63 |
| 241 | 337 | 24-86196 | 9372-6213 | 235 | 24-51-72 | 0 | 49-29-28 | 234 | 35-22-43 |

5833-3

3839-1304

3867-2109

3895-3253

3923-4515

3951-5777

3979-7039

4007-8298

4035-9540

4063-1084

4091-2337

4119-3590

4147-4843

4175-6096

4203-7349

4231-8602

4259-9855

4287-1108

4315-2361

4343-3614

4371-4867

4399-6120

4427-7373

4455-8626

4483-9879

4511-1132

4539-2385

| 11 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | |
|--|-----|----------|-----|----|-------|-----------|------|-------|-----------|-----|----|-------|-----------|
| 242 | 338 | 23-99813 | 236 | 23 | 59-89 | 6566-6658 | 0 47 | 25-35 | 21-9549 | 235 | 36 | 34-53 | 6544-7109 |
| 243 | 339 | 25-13430 | 237 | 23 | 8-06 | 6594-0437 | 0 43 | 21-17 | 20-0067 | 236 | 37 | 40-89 | 6573-0470 |
| 244 | 340 | 22-27047 | 238 | 22 | 16-23 | 6621-4215 | 0 43 | 16-98 | 20-0384 | 237 | 38 | 50-25 | 6601-3831 |
| 245 | 341 | 21-40604 | 239 | 21 | 24-40 | 6648-7994 | 0 41 | 12-48 | 19-0777 | 238 | 40 | 11-92 | 6629-7216 |
| 246 | 342 | 20-54281 | 240 | 20 | 32-57 | 6676-1772 | 0 39 | 5-33 | 18-0067 | 239 | 41 | 27-24 | 6658-0865 |
| At true Dhanuṣ-śam. | | | | | | | | | 6666 d | | | | |
| Arṇatī | | | | | | | | | 249 0 0-9 | | | | |
| 247 | 343 | 19-07809 | 241 | 19 | 40-74 | 6703-5551 | 0 36 | 58-19 | 17-1157 | 240 | 42 | 42-55 | 6685-4994 |
| 248 | 344 | 18-81516 | 242 | 18 | 48-01 | 6730-9329 | 0 34 | 51-05 | 16-1346 | 241 | 43 | 57-86 | 6714-7983 |
| 249 | 345 | 17-95133 | 243 | 17 | 57-09 | 6758-3108 | 0 32 | 43-19 | 15-1480 | 242 | 45 | 13-89 | 6743-1628 |
| 250 | 346 | 17-08750 | 244 | 17 | 5-25 | 6785-6887 | 0 30 | 33-68 | 14-1488 | 243 | 46 | 31-57 | 6771-5360 |
| 251 | 347 | 16-22367 | 245 | 16 | 13-42 | 6813-0665 | 0 28 | 24-17 | 13-1495 | 244 | 47 | 49-25 | 6799-9171 |
| 252 | 348 | 15-35984 | 246 | 15 | 21-59 | 6840-4444 | 0 26 | 14-66 | 12-1502 | 245 | 49 | 6-63 | 6828-2942 |
| 253 | 349 | 14-49601 | 247 | 14 | 29-76 | 6867-8222 | 0 24 | 4-27 | 11-1440 | 246 | 50 | 25-49 | 6856-6782 |
| 254 | 350 | 13-63219 | 248 | 13 | 37-93 | 6895-2001 | 0 21 | 52-69 | 10-1311 | 247 | 51 | 44-94 | 6885-0690 |
| 255 | 351 | 12-76836 | 249 | 12 | 46-10 | 6922-5770 | 0 19 | 41-70 | 9-1181 | 248 | 53 | 4-40 | 6913-4599 |
| 256 | 352 | 11-90453 | 250 | 11 | 54-27 | 6949-9558 | 0 17 | 30-42 | 8-1051 | 249 | 54 | 23-85 | 6941-8507 |
| 257 | 353 | 11-04070 | 251 | 11 | 2-44 | 6977-3337 | 0 15 | 18-32 | 7-0858 | 250 | 55 | 44-12 | 6970-2479 |
| 258 | 354 | 10-17687 | 252 | 10 | 10-61 | 7004-7115 | 0 13 | 5-85 | 6-0637 | 251 | 57 | 4-76 | 6998-6478 |
| 259 | 355 | 9-31304 | 253 | 9 | 18-78 | 7032-0894 | 0 10 | 53-39 | 5-0416 | 252 | 58 | 25-39 | 7027-0478 |
| 260 | 356 | 8-44922 | 254 | 8 | 26-95 | 7059-4672 | 0 8 | 40-92 | 4-0195 | 253 | 59 | 40-93 | 7055-4478 |
| 261 | 357 | 7-58539 | 255 | 7 | 35-12 | 7086-8451 | 0 6 | 27-93 | 3-0033 | 254 | 1 | 7-19 | 7083-8518 |
| 262 | 358 | 6-72156 | 256 | 6 | 43-29 | 7114-2220 | 0 4 | 14-88 | 1-9666 | 256 | 2 | 28-42 | 7112-2563 |
| 263 | 359 | 5-85773 | 257 | 5 | 51-46 | 7141-6008 | 0 2 | 1-82 | 0-9406 | 257 | 3 | 49-04 | 7140-6908 |
| Sun at 266° (perigee) | | | | | | | | | 7166 d | | | | |
| Sun's equation of centre is + (plus) after his mean noon = 369 till it reaches 189°. | | | | | | | | | 258 0 0-0 | | | | |
| Sun's equation of the centre. | | | | | | | | | 258 0 0-0 | | | | |
| 264 | 360 | 4-00390 | 258 | 4 | 59-63 | 7168-9787 | 0 0 | 11-24 | 0-0867 | 258 | 5 | 10-87 | 7169-0634 |
| 265 | 1 | 4-13067 | 259 | 4 | 7-80 | 7196-3565 | 0 2 | 24-29 | 1-1134 | 259 | 6 | 32-10 | 7197-4699 |
| 266 | 2 | 3-26255 | 260 | 3 | 15-97 | 7223-7344 | 0 4 | 37-35 | 2-1400 | 260 | 7 | 53-32 | 7225-8744 |
| 267 | 3 | 2-40242 | 261 | 2 | 24-15 | 7251-1122 | 0 6 | 50-41 | 3-1667 | 261 | 9 | 14-55 | 7254-2789 |
| 268 | 4 | 1-53839 | 262 | 1 | 32-32 | 7278-4901 | 0 9 | 3-30 | 4-1921 | 262 | 10 | 35-61 | 7282-6822 |

TABLE XLVIII A—Contd.

| 1st Ārya-Siddhanta. | | | | | | | | | | | | | | |
|--|---|-------------------------|-------------------------|-----------------------|-------------------------|------------------------------------|-------------------------|--|-------------------------|-----|-----|-------|-----------|--------|
| 24-hour periods from true Mēṣa-samkranti. | Sun's mean anomaly (or mean sun's distance from perige- eum) ($^{\circ}C'$). | | | Sun's mean Longitude. | | Sun's equation of the centre. + | | Sun's true Longitude. ($^{\circ}S'$). | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | |
| | 0 | 10,000ths of circle. | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | | | | | |
| 269 | 5 | 0-67476 | 139-2013 | 263 | 0 | 40-40 | 0 | 11 | 15-76 | 263 | 11 | 56-25 | 7311-0822 | |
| 270 | 5 | 59-81003 | 160-5791 | 263 | 59 | 48-06 | 0 | 13 | 28-23 | 264 | 13 | 16-88 | 7330-4821 | |
| 271 | 6 | 58-94710 | 193-0570 | 264 | 58 | 50-83 | 0 | 15 | 40-69 | 263 | 14 | 37-62 | 7367-8821 | |
| 272 | 7 | 58-08327 | 221-3348 | 265 | 58 | 5-00 | 0 | 17 | 52-59 | 266 | 15 | 57-59 | 7390-2777 | |
| 273 | 8 | 57-21945 | 248-7127 | 266 | 57 | 13-17 | 0 | 20 | 3-88 | 267 | 17 | 17-04 | 7424-6684 | |
| 274 | 9 | 56-35102 | 276-0906 | 267 | 56 | 21-34 | 0 | 22 | 15-16 | 268 | 18 | 36-50 | 7453-0594 | |
| 275 | 10 | 55-49179 | 303-4684 | 268 | 55 | 29-51 | 0 | 24 | 26-44 | 269 | 19 | 55-35 | 7481-8502 | |
| At true Makara-samkranti | | | | | | | | | | | 270 | 20 | 9-9 | 7500-0 |
| 276 | 11 | 54-62766 | 329-3607 | 269 | 54 | 38-44 | 0 | 25 | 51-66 | 270 | 21 | 14-31 | 7529-247 | |
| 277 | 12 | 53-76413 | 358-2241 | 270 | 53 | 45-85 | 0 | 26 | 36-54 | 270 | 21 | 14-31 | 7559-8319 | |
| 278 | 13 | 52-90030 | 385-0620 | 271 | 52 | 54-02 | 0 | 28 | 40-04 | 271 | 22 | 31-89 | 7588-2090 | |
| 279 | 14 | 52-03648 | 412-9798 | 272 | 52 | 2-10 | 0 | 30 | 55-55 | 272 | 23 | 49-57 | 7605-5802 | |
| 280 | 15 | 51-17265 | 440-3577 | 273 | 51 | 10-30 | 0 | 33 | 5-06 | 273 | 25 | 7-25 | 7604-9633 | |
| 281 | 16 | 50-30882 | 467-7356 | 274 | 50 | 18-53 | 0 | 35 | 12-52 | 274 | 26 | 22-58 | 7623-3247 | |
| 282 | 17 | 49-44499 | 495-1134 | 275 | 49 | 26-70 | 0 | 37 | 10-06 | 275 | 27 | 38-19 | 7651-0836 | |
| 283 | 18 | 48-58116 | 522-4913 | 276 | 48 | 34-87 | 0 | 39 | 26-81 | 276 | 28 | 53-51 | 7680-0425 | |
| 284 | 19 | 47-71733 | 549-8691 | 277 | 47 | 43-04 | 0 | 41 | 33-77 | 277 | 30 | 8-64 | 7703-4000 | |
| 285 | 20 | 46-85351 | 577-2470 | 278 | 46 | 51-21 | 0 | 43 | 37-06 | 278 | 31 | 21-00 | 7736-7501 | |
| 286 | 21 | 45-98968 | 604-6249 | 279 | 45 | 59-38 | 0 | 45 | 42-14 | 279 | 32 | 33-35 | 7765-0722 | |
| 287 | 22 | 45-12585 | 632-0027 | 280 | 45 | 7-55 | 0 | 47 | 46-33 | 280 | 33 | 45-71 | 7793-4082 | |
| 288 | 23 | 44-26202 | 659-3806 | 281 | 44 | 15-72 | 0 | 49 | 49-76 | 281 | 34 | 57-31 | 7821-7385 | |
| 289 | 24 | 43-39819 | 686-7584 | 282 | 43 | 23-89 | 0 | 51 | 50-90 | 282 | 36 | 6-71 | 7850-0618 | |
| 290 | 25 | 42-53436 | 714-1363 | 283 | 42 | 32-06 | 0 | 53 | 52-22 | 283 | 37 | 16-11 | 7878-3850 | |
| | | | | | | | | 55 | 53-45 | 284 | 38 | 25-31 | 7906-7083 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------------------------|-------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 291 | 26 41-07053 | 741-5141 | 284 41 40-23 | 7908-1808 | 0 57 53-07 | 20-7084 | 285 39 33-31 | 7934-6792 |
| 292 | 27 40-80071 | 708-8920 | 285 40 48-40 | 7935-5387 | 0 59 50-76 | 27-7064 | 286 40 39-16 | 7963-2631 |
| 293 | 28 39-04288 | 796-2609 | 286 39 56-57 | 7962-9265 | 1 1 48-44 | 28-6145 | 287 41 45-01 | 7991-5510 |
| 294 | 29 39-07905 | 823-6477 | 287 39 4-74 | 7990-3144 | 1 3 46-12 | 29-5225 | 288 42 50-36 | 8019-8369 |
| 295 | 30 38-21322 | 851-6256 | 288 38 12-01 | 8017-9522 | 1 5 46-74 | 30-4070 | 289 43 53-05 | 8048-0992 |
| 296 | 31 37-35139 | 878-4034 | 289 37 21-08 | 8045-6710 | 1 7 33-09 | 31-2785 | 290 44 54-77 | 8076-3486 |
| 297 | 32 36-48756 | 905-7813 | 290 36 50-25 | 8072-4479 | 1 9 26-04 | 32-1500 | 291 45 55-90 | 8104-5980 |
| 298 | 33 35-02374 | 933-1591 | 291 35 27-42 | 8099-8258 | 1 11 19-59 | 33-0215 | 292 46 57-02 | 8132-8473 |
| 299 | 34 34-75991 | 1000-5370 | 292 34 45-59 | 8127-2037 | 1 13 8-56 | 33-8623 | 293 47 54-16 | 8161-0660 |
| 300 | 35 33-89068 | 1087-9149 | 293 33 53-76 | 8154-3815 | 1 14 56-78 | 34-0374 | 294 48 50-54 | 8189-2789 |
| 301 | 36 33-03225 | 1015-2927 | 294 33 1-04 | 8181-9594 | 1 16 45-00 | 35-5324 | 295 49 40-63 | 8217-8918 |
| 302 | 37 32-16842 | 1042-6709 | 295 32 10-11 | 8209-3372 | 1 18 33-02 | 36-3559 | 296 50 43-13 | 8245-7032 |
| 303 | 38 31-30459 | 1070-0484 | 296 31 18-28 | 8236-7151 | 1 20 15-02 | 37-1599 | 297 51 34-20 | 8273-8750 |
| 304 | 39 30-44077 | 1097-4268 | 297 30 26-45 | 8264-0929 | 1 21 58-82 | 37-9538 | 298 52 25-26 | 8302-0468 |
| 305 | 40 29-57594 | 1124-8041 | 298 29 34-02 | 8291-4708 | 1 23 41-71 | 38-7478 | 299 53 16-33 | 8330-2180 |
| <i>U true Kumbha-sankranti</i> | | | | | | | | |
| 306 | 40 36-11516 | 1127-8312 | 298 36 6-32 | 8294-1978 | 1 23 53-69 | 38-8555 | 300 0 0-0 | 8358-3798 |
| 307 | 41 28-71311 | 1152-1829 | 299 28 42-70 | 8318-8487 | 1 25 23-24 | 39-3312 | 300 54 6-03 | 8386-5060 |
| 308 | 42 27-84928 | 1179-5569 | 300 27 50-06 | 8346-2265 | 1 27 0-22 | 40-3795 | 301 54 51-18 | 8414-6322 |
| 309 | 43 26-98545 | 1206-0377 | 301 26 59-13 | 8373-6044 | 1 28 37-21 | 41-0278 | 302 55 30-33 | 8442-7584 |
| 310 | 44 26-12162 | 1234-3156 | 302 26 7-30 | 8400-9822 | 1 30 14-19 | 41-7762 | 303 56 21-49 | 8470-8851 |
| 311 | 45 25-25779 | 1261-6934 | 303 25 15-47 | 8428-3601 | 1 31 48-06 | 42-3051 | 304 57 4-12 | 8498-9456 |
| 312 | 46 24-39397 | 1289-0713 | 304 24 23-64 | 8455-7379 | 1 33 19-72 | 43-2977 | 305 57 43-35 | 8527-0262 |
| 313 | 47 23-53614 | 1316-4491 | 305 23 31-81 | 8483-1158 | 1 34 50-79 | 43-9104 | 306 58 22-59 | 8555-1067 |
| 314 | 48 22-69031 | 1343-8270 | 306 22 39-98 | 8510-4937 | 1 36 21-86 | 44-6131 | 307 59 1-83 | 8583-1864 |
| 315 | 49 21-80248 | 1371-2049 | 307 21 48-15 | 8537-8715 | 1 37 49-88 | 45-2845 | 308 59 37-03 | 8611-1864 |
| 316 | 50 20-93895 | 1398-5827 | 308 20 56-32 | 8565-2494 | 1 39 13-44 | 45-9371 | 310 0 9-76 | 8639-2668 |
| 317 | 51 20-07482 | 1425-9606 | 309 20 4-49 | 8592-6272 | 1 40 38-01 | 46-5896 | 311 0 42-50 | 8667-3471 |
| 318 | 52 19-21100 | 1453-3384 | 310 19 12-00 | 8620-0051 | 1 42 2-57 | 47-2421 | 312 1 15-23 | 8695-4278 |
| 319 | 53 18-34717 | 1480-7163 | 311 18 30-83 | 8647-3829 | 1 43 21-33 | 47-8498 | 313 1 42-16 | 8723-5084 |
| 320 | 54 17-48334 | 1508-0941 | 312 17 29-00 | 8674-7608 | 1 44 38-80 | 48-4470 | 314 2 7-80 | 8751-5890 |
| 321 | 55 16-61951 | 1535-4720 | 313 16 37-17 | 8702-1387 | 1 45 56-27 | 49-0453 | 315 2 33-44 | 8779-6696 |
| 322 | 56 15-75568 | 1562-8499 | 314 15 45-34 | 8729-5165 | 1 47 13-05 | 49-6434 | 316 2 58-09 | 8807-7503 |
| 323 | 57 14-89185 | 1590-2277 | 315 14 53-51 | 8756-8944 | 1 48 34-02 | 50-2415 | 317 3 17-33 | 8835-8309 |
| 324 | 58 14-02802 | 1617-6056 | 316 14 1-68 | 8784-2722 | 1 49 34-39 | 50-7283 | 318 3 30-07 | 8863-9114 |
| 325 | 59 13-16420 | 1644-9834 | 317 13 9-85 | 8811-6501 | 1 50 44-77 | 51-2113 | 319 3 54-02 | 8891-9919 |
| 326 | 60 12-30037 | 1672-3613 | 318 12 18-02 | 8839-0279 | 1 51 53-54 | 51-8029 | 320 4 11-56 | 8919-0725 |

TABLE XLVIII A—*Conold.*

1st Arya-Siddhanta.

| 24-hour periods from true Māha-samkrānti. | Sun's mean anomaly (or mean sun's distance from perigeo- point) ($^{\circ}C'$). | | | Sun's mean Longitude. | | Sun's equation of the centre, + | | Sun's true Longitude ($^{\circ}S'$). | |
|--|--|----------|-------------------------|-----------------------|-------------------------|------------------------------------|-------------------------|---|-------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. |
| 326 | 61 | 11-43654 | 1699-7301 | 319 11 26-19 | 8806-4058 | 1 52 56-22 | 52-2857 | 321 4 22-42 | 8918-6916 |
| 327 | 62 | 10-57271 | 1727-1170 | 320 10 34-36 | 8803-7837 | 1 53 58-01 | 52-7692 | 322 4 33-27 | 8940-5590 |
| 328 | 63 | 9-70888 | 1754-4949 | 321 0 42-53 | 8801-1615 | 1 55 1-59 | 53-2530 | 323 4 44-12 | 8974-4146 |
| 329 | 64 | 8-84505 | 1781-8727 | 322 8 50-70 | 8804-5394 | 1 56 1-18 | 53-7128 | 324 4 51-88 | 9002-2529 |
| 330 | 65 | 7-98123 | 1809-2506 | 323 7 58-87 | 8805-9172 | 1 56 50-17 | 54-1371 | 325 4 55-05 | 9030-0544 |
| 331 | 66 | 7-11740 | 1836-6284 | 324 7 7-04 | 8803-2951 | 1 57 51-17 | 45-5615 | 326 4 58-21 | 9057-8500 |
| 332 | 67 | 6-25357 | 1864-0003 | 325 6 16-21 | 8803-6729 | 1 58 40-17 | 74-0858 | 327 5 1-38 | 9085-6388 |
| 333 | 68 | 5-38974 | 1891-3841 | 326 5 23-38 | 8805-0508 | 1 59 30-21 | 55-8720 | 328 4 56-59 | 9113-4228 |
| 334 | 69 | 4-52591 | 1918-7620 | 327 4 31-55 | 8805-4287 | 2 0 22-03 | 55-7324 | 329 4 54-48 | 9141-1611 |
| <i>At true Māha-samkrānti.</i> | | | | | | | | | |
| | 69 | 58-99196 | 1243-9361 | 327 58 54-12 | 9110-6028 | 2 1 5-88 | 56-0638 | 330 0 0-0 | 9165-6 |
| 335 | 70 | 3-06208 | 1946-1309 | 328 3 39-73 | 9112-8065 | 2 1 9-64 | 56-0229 | 330 4 40-57 | 9168-8004 |
| 336 | 71 | 2-79826 | 1973-5177 | 329 2 47-00 | 9140-1844 | 2 1 56-36 | 56-4334 | 331 4 44-26 | 9196-0378 |
| 337 | 72 | 1-93443 | 2000-8956 | 330 1 56-07 | 9167-5622 | 2 2 36-51 | 56-7932 | 332 4 32-57 | 9224-3254 |
| 338 | 73 | 1-07060 | 2028-2734 | 331 1 4-24 | 9194-9401 | 2 3 14-05 | 57-0598 | 333 4 19-18 | 9251-0099 |
| 339 | 74 | 0-20677 | 2055-6513 | 332 0 12-41 | 9222-3170 | 2 3 53-38 | 57-3564 | 334 4 5-79 | 9279-6743 |
| 340 | 74 | 59-34294 | 2083-0201 | 332 59 20-58 | 9249-6958 | 2 4 31-82 | 57-6520 | 335 3 53-40 | 9307-9488 |
| 341 | 75 | 58-47911 | 2110-4070 | 333 58 28-75 | 9277-0737 | 2 5 2-07 | 57-8864 | 336 3 39-82 | 9334-9609 |
| 342 | 76 | 57-61528 | 2137-7849 | 334 57 36-02 | 9304-4515 | 2 5 32-23 | 58-1101 | 337 3 9-15 | 9362-5706 |
| 343 | 77 | 56-75145 | 2165-1627 | 335 56 43-09 | 9331-8294 | 2 6 2-23 | 58-3518 | 338 2 47-48 | 9390-1812 |
| 344 | 78 | 55-88763 | 2192-5406 | 336 55 50-26 | 9359-2072 | 2 6 31-03 | 58-5728 | 339 2 24-29 | 9417-7800 |
| 345 | 79 | 55-02380 | 2219-9184 | 337 55 1-43 | 9386-5851 | 2 6 52-01 | 58-7416 | 340 1 54-34 | 9445-3257 |
| 346 | 80 | 54-15997 | 2247-2963 | 338 54 9-60 | 9413-9629 | 2 7 14-79 | 58-9104 | 341 1 24-39 | 9472-8734 |
| 347 | 81 | 53-29614 | 2274-6741 | 339 53 17-77 | 9441-3408 | 2 7 30-67 | 59-0792 | 342 0 54-44 | 9500-4200 |
| 348 | 82 | 52-43231 | 2302-0520 | 340 52 25-94 | 9468-7187 | 2 7 55-19 | 59-2221 | 343 0 21-12 | 9527-9408 |
| 349 | 83 | 51-56849 | 2329-4299 | 341 51 34-11 | 9496-0965 | 2 8 8-20 | 59-3225 | 343 59 42-20 | 9555-4190 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|-------------|-----------|--------------|-----------|-----------|---------|--------------|-----------|
| 350 | 84 50-70466 | 2350-8077 | 342 50 42-28 | 9523-4744 | 2 8 21-21 | 59-4229 | 344 50 3-48 | 9582-8373 |
| 351 | 85 49-84083 | 2384-1856 | 343 49 50-45 | 9550-8522 | 2 8 34-21 | 59-5233 | 345 58 24-05 | 9610-3755 |
| 352 | 86 48-97700 | 2411-0634 | 344 48 58-52 | 9578-2301 | 2 8 42-13 | 59-5843 | 346 57 40-75 | 9637-8144 |
| 353 | 87 48-11317 | 2438-9413 | 345 48 6-79 | 9605-0080 | 2 8 40-27 | 59-6163 | 347 56 53-06 | 9665-2242 |
| 354 | 88 47-24934 | 2466-3191 | 346 47 14-96 | 9632-9858 | 2 8 50-41 | 59-6482 | 348 50 5-37 | 9692-6340 |
| 355 | 89 46-38551 | 2493-0970 | 347 46 23-13 | 9660-3637 | 2 8 54-55 | 59-6801 | 349 55 17-68 | 9720-0438 |
| 356 | 90 45-52169 | 2521-0749 | 348 45 31-30 | 9687-7415 | 2 8 52-31 | 59-6929 | 350 54 23-61 | 9747-4044 |
| 357 | 91 44-65786 | 2548-4527 | 349 44 39-47 | 9715-1104 | 2 8 48-17 | 59-6310 | 351 53 27-65 | 9774-7504 |
| 358 | 92 43-79403 | 2575-8306 | 350 43 47-64 | 9742-4972 | 2 8 44-03 | 59-5990 | 352 52 31-68 | 9802-0983 |
| 359 | 93 42-93020 | 2603-2084 | 351 42 55-81 | 9769-8751 | 2 8 39-49 | 59-5671 | 353 51 35-71 | 9829-4422 |
| 360 | 94 42-06637 | 2630-5863 | 352 42 3-98 | 9797-2530 | 2 8 27-20 | 59-4091 | 354 50 31-18 | 9856-7221 |
| 361 | 95 41-20254 | 2657-9641 | 353 41 12-15 | 9824-6308 | 2 8 14-19 | 59-3687 | 355 49 28-34 | 9883-9905 |
| 362 | 96 40-33872 | 2685-3420 | 354 40 20-32 | 9852-0087 | 2 8 1-18 | 59-2983 | 356 48 21-50 | 9911-2770 |
| 363 | 97 39-47489 | 2712-7199 | 355 39 28-49 | 9879-3865 | 2 7 46-74 | 59-1570 | 357 47 15-24 | 9938-5435 |
| 364 | 98 38-61106 | 2740-0977 | 356 38 36-06 | 9906-7644 | 2 7 24-85 | 58-0881 | 358 40 1-53 | 9965-7525 |
| 365 | 99 37-74723 | 2767-4756 | 357 37 44-83 | 9934-1422 | 2 7 2-98 | 58-8103 | 359 44 47-82 | 9992-9616 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----|--------------|-----------|-------------|-----------|------------|---------|-------------|-----------|
| 16 | 110 21-35725 | 3232-1068 | 13 37 51-88 | 378-6411 | 1 57 15-63 | 54-2873 | 15 35 7-52 | 432-9284 |
| 17 | 117 20-49340 | 3236-4877 | 14 37 0-05 | 400-0189 | 1 56 13-54 | 53-8082 | 16 33 13-59 | 430-8271 |
| 18 | 118 19-62956 | 3280-8055 | 15 36 8-22 | 433-3968 | 1 55 11-45 | 53-3968 | 17 31 19-67 | 430-7259 |
| 19 | 119 18-76572 | 3314-2434 | 16 35 10-39 | 460-7746 | 1 54 9-35 | 52-8500 | 18 29 25-75 | 513-0246 |
| 20 | 120 17-90188 | 3341-0212 | 17 34 24-56 | 488-1825 | 1 53 4-23 | 52-3475 | 19 27 28-80 | 510-3000 |
| 21 | 121 17-02804 | 3368-9091 | 18 33 32-73 | 515-5303 | 1 51 54-45 | 51-8091 | 20 25 27-19 | 507-3394 |
| 22 | 122 16-17420 | 3396-3769 | 19 32 40-80 | 542-9082 | 1 50 44-67 | 51-2706 | 21 23 25-57 | 504-1788 |
| 23 | 123 15-31036 | 3423-7548 | 20 31 49-07 | 570-2860 | 1 49 34-89 | 50-7322 | 22 21 23-06 | 621-0182 |
| 24 | 124 14-44652 | 3451-1326 | 21 30 57-24 | 597-0639 | 1 48 20-34 | 50-1570 | 23 19 17-58 | 647-8209 |
| 25 | 125 13-58268 | 3478-5105 | 22 30 5-41 | 625-0417 | 1 47 2-87 | 49-5592 | 24 17 8-28 | 674-0610 |
| 26 | 126 12-71884 | 3505-8884 | 23 29 13-58 | 652-4196 | 1 45 45-40 | 48-9015 | 25 14 58-98 | 701-3811 |
| 27 | 127 11-85500 | 3533-2662 | 24 28 21-75 | 679-7975 | 1 44 27-04 | 48-3037 | 26 12 40-69 | 728-1612 |
| 28 | 128 10-99116 | 3560-6441 | 25 27 29-92 | 707-1753 | 1 43 6-34 | 47-7341 | 27 10 36-26 | 754-9094 |
| 29 | 129 10-12732 | 3588-0219 | 26 26 38-09 | 734-5532 | 1 41 41-77 | 47-0816 | 28 8 19-86 | 781-6347 |
| 30 | 130 9-26347 | 3615-3998 | 27 25 46-26 | 761-9310 | 1 40 17-21 | 46-4291 | 29 0 3-47 | 808-3601 |
| 31 | 131 8-39963 | 3642-7776 | 28 24 54-43 | 789-3089 | 1 38 52-64 | 45-7766 | 30 3 47-07 | 835-0854 |
| 32 | 132 7-53579 | 3670-1555 | 29 24 2-00 | 816-6867 | 1 37 22-78 | 45-0832 | 31 1 25-30 | 861-7090 |
| 33 | 133 6-67195 | 3697-5333 | 30 23 10-77 | 844-0646 | 1 35 51-71 | 44-3803 | 31 59 2-48 | 888-4451 |
| 34 | 134 5-80811 | 3724-9112 | 31 22 18-04 | 871-4424 | 1 34 20-64 | 43-6778 | 32 56 30-58 | 915-1202 |
| 35 | 135 4-94427 | 3752-2890 | 32 21 27-11 | 898-8203 | 1 32 48-08 | 42-9882 | 33 54 15-78 | 941-7885 |
| 36 | 136 4-08043 | 3779-6669 | 33 20 35-28 | 926-1981 | 1 31 11-10 | 42-2153 | 34 51 46-38 | 968-4134 |
| 37 | 137 3-21659 | 3807-0447 | 34 19 43-45 | 953-5760 | 1 29 33-53 | 41-4924 | 35 49 16-97 | 995-0384 |
| 38 | 138 2-35275 | 3834-4226 | 35 18 51-61 | 980-9538 | 1 27 55-95 | 40-7095 | 36 46 47-57 | 1021-6633 |
| 39 | 139 1-48891 | 3861-8004 | 36 17 59-78 | 1008-3317 | 1 26 17-76 | 39-9319 | 37 44 17-55 | 1048-2836 |
| 40 | 140 0-62507 | 3889-1783 | 37 17 7-95 | 1035-7095 | 1 24 34-28 | 39-1534 | 38 41 42-23 | 1074-8629 |
| 41 | 140 59-76123 | 3916-5561 | 38 16 16-12 | 1063-0874 | 1 22 50-79 | 38-3548 | 39 39 6-91 | 1101-4422 |
| 42 | 141 58-89739 | 3943-9340 | 39 15 24-29 | 1090-4652 | 1 21 7-30 | 37-5563 | 40 36 31-59 | 1128-0215 |
| 43 | 142 58-03355 | 3971-3118 | 40 14 32-46 | 1117-8431 | 1 19 21-02 | 36-7362 | 41 33 53-48 | 1154-5793 |
| 44 | 143 57-16970 | 3998-6897 | 41 13 40-63 | 1145-3209 | 1 17 32-61 | 35-8921 | 42 31 12-25 | 1181-1130 |
| 45 | 144 56-30586 | 4026-0675 | 42 12 48-80 | 1172-6988 | 1 15 42-21 | 35-0479 | 43 28 31-01 | 1207-6407 |
| 46 | 145 55-44202 | 4053-4454 | 43 11 56-97 | 1199-9766 | 1 13 52-81 | 34-2038 | 44 25 49-78 | 1234-1804 |
| 47 | 146 54-57818 | 4080-8232 | 44 11 5-14 | 1227-3545 | 1 12 1-33 | 33-3456 | 45 23 0-47 | 1260-6981 |
| 48 | 147 53-71434 | 4108-2011 | 45 10 13-31 | 1254-7323 | 1 10 7-20 | 32-4929 | 46 20 20-51 | 1287-1953 |
| 49 | 148 52-85050 | 4135-5789 | 46 9 21-48 | 1280-1102 | 1 8 23-06 | 31-5823 | 47 17 34-44 | 1313-6925 |
| 50 | 149 51-98666 | 4162-9568 | 47 8 29-65 | 1309-4880 | 1 6 18-33 | 30-7016 | 48 14 48-38 | 1340-1897 |

TABLE XLVIII B—Contd.

| TABLE XLV. B.—Contd. | | | | | | | | | | | | | | |
|--|---|------------|-------------------------|----|-----------------------|-------|------------------------------------|---|--|------------|-------------------------|------------|-------|-----------|
| 24-hour periods from true Māhā-samkranti. | Sun's mean anomaly (or mean sun's distance from perigee- point) ($^{\circ}e''$). | | | | Sun's mean Longitude. | | Sun's equation of the centre. + | | Sun's true Longitude ($^{\circ}S''$). | | 10,000ths of circle. | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | |
| | | $^{\circ}$ | 10,000ths of circle. | | | | | | | $^{\circ}$ | | $^{\circ}$ | | |
| 51 | 150 | 51-12282 | 4190-3346 | 48 | 7 | 37-82 | 1336-8559 | 1 | 4 | 10-98 | 49 | 11 | 57-80 | 1366-6407 |
| 52 | 151 | 50-25698 | 4217-7125 | 49 | 6 | 45-00 | 1364-2337 | 1 | 5 | 20-53 | 50 | 0 | 0-52 | 1393-1038 |
| 53 | 152 | 49-39514 | 4245-0903 | 50 | 5 | 54-16 | 1391-6116 | 1 | 0 | 21-07 | 51 | 6 | 15-23 | 1419-5620 |
| 54 | 153 | 48-53130 | 4273-4682 | 51 | 5 | 2-83 | 1418-9995 | 0 | 58 | 21-99 | 52 | 3 | 24-32 | 1446-0209 |
| 55 | 154 | 47-66746 | 4300-8460 | 52 | 4 | 10-50 | 1446-3773 | 0 | 50 | 18-08 | 53 | 0 | 29-48 | 1472-4497 |
| 56 | 155 | 46-80362 | 4327-2239 | 53 | 3 | 18-67 | 1472-7351 | 0 | 54 | 15-98 | 54 | 57 | 34-65 | 1498-8785 |
| 57 | 156 | 45-93978 | 4354-6017 | 54 | 2 | 29-84 | 1501-1330 | 0 | 52 | 12-08 | 55 | 54 | 39-81 | 1525-3072 |
| 58 | 157 | 45-07593 | 4381-9796 | 55 | 1 | 35-01 | 1528-5108 | 0 | 50 | 8-13 | 56 | 51 | 43-13 | 1551-7217 |
| 59 | 158 | 44-21209 | 4409-3575 | 56 | 0 | 42-18 | 1555-8887 | 0 | 48 | 1-58 | 57 | 48 | 44-75 | 1578-1231 |
| 60 | 159 | 43-34825 | 4436-7353 | 56 | 59 | 51-35 | 1583-2666 | 0 | 45 | 55-03 | 57 | 45 | 40-37 | 1604-5245 |
| 61 | 160 | 42-48441 | 4464-1132 | 57 | 58 | 59-51 | 1610-6444 | 0 | 43 | 48-47 | 58 | 42 | 47-99 | 1630-9258 |
| 62 | 161 | 41-62057 | 4491-4910 | 58 | 58 | 7-68 | 1638-0223 | 0 | 41 | 40-04 | 59 | 39 | 47-72 | 1657-3127 |
| 63 | 162 | 40-75673 | 4518-8689 | 59 | 57 | 15-83 | 1665-4001 | 0 | 39 | 29-94 | 60 | 36 | 45-79 | 1683-6867 |
| 64 | 163 | 39-89289 | 4546-2467 | 60 | 56 | 24-02 | 1692-7780 | 0 | 37 | 19-84 | 61 | 33 | 43-86 | 1710-0007 |
| 65 | 164 | 39-02905 | 4573-6246 | 61 | 55 | 32-19 | 1720-1558 | 0 | 35 | 9-74 | 62 | 30 | 41-03 | 1736-4347 |
| 66 | 165 | 38-16521 | 4601-0024 | 62 | 54 | 40-36 | 1747-5337 | 0 | 32 | 57-99 | 63 | 27 | 38-36 | 1762-7960 |
| 67 | 166 | 37-30137 | 4628-3803 | 63 | 53 | 48-53 | 1774-9115 | 0 | 30 | 44-94 | 64 | 24 | 33-47 | 1789-1472 |
| 68 | 167 | 36-43753 | 4655-7581 | 64 | 52 | 56-70 | 1802-2894 | 0 | 28 | 31-88 | 65 | 21 | 28-58 | 1815-4983 |
| 69 | 168 | 35-57369 | 4683-1360 | 65 | 52 | 4-87 | 1829-6672 | 0 | 26 | 18-83 | 66 | 18 | 23-70 | 1841-8495 |
| 70 | 169 | 34-70985 | 4710-5138 | 66 | 51 | 13-04 | 1857-0451 | 0 | 24 | 5-05 | 67 | 15 | 18-00 | 1868-1352 |
| 71 | 170 | 33-84601 | 4737-8917 | 67 | 50 | 21-21 | 1884-4229 | 0 | 21 | 50-22 | 68 | 12 | 11-43 | 1894-5527 |
| 72 | 171 | 32-98216 | 4765-2695 | 68 | 49 | 29-38 | 1911-8008 | 0 | 19 | 35-39 | 69 | 9 | 4-77 | 1920-8702 |
| 73 | 172 | 32-11832 | 4792-6474 | 69 | 48 | 37-55 | 1939-1786 | 0 | 17 | 19-52 | 70 | 5 | 57-07 | 1947-1060 |
| 74 | 173 | 31-25448 | 4820-0252 | 70 | 47 | 45-72 | 1966-5565 | 0 | 15 | 2-91 | 71 | 2 | 48-63 | 1973-5234 |
| 75 | 174 | 30-39064 | 4847-4031 | 71 | 46 | 53-89 | 1993-9343 | 0 | 12 | 40-31 | 71 | 39 | 40-29 | 1999-8472 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|--------------|-----------|--------------|-------------------------------------|------------|---------|-------------|-----------|
| 76 | 175 29-52650 | 4874-7809 | 72 46 2-06 | 2021-3122 | 0 10 29-70 | 4-8588 | 72 56 31-76 | 2026-1710 |
| 77 | 176 28-06290 | 4902-1588 | 73 45 10-23 | 2048-6900 | 0 8 12-35 | 3-7990 | 73 53 22-57 | 2052-4890 |
| 78 | 177 27-79012 | 4929-5296 | 74 44 18-40 | 2076-0679 | 0 5 54-06 | 2-7358 | 74 60 12-06 | 2078-8037 |
| 79 | 178 26-63528 | 4956-9145 | 75 43 26-57 | 2103-4457 | 0 3 36-77 | 1-6726 | 75 47 3-34 | 2105 1184 |
| 80 | 179 26-07144 | 4984-2923 | 76 42 34-74 | 2130-8226 | 0 1 18-09 | 0-6095 | 76 43 53-72 | 2131-4330 |
| <i>Sun in apogee</i> | | | | | | | | |
| | 180 0-0 | 5000-0 | 77 16 39-45 | 2156-5313 | 0 0 0-0 | 0-0 | 77 16 39-45 | 2146-5313 |
| <i>(The sun's equation of the centre is —, minus, after his mean anomaly : — 180° till it reaches 360° or 0°)</i> | | | | | | | | |
| | | | | <i>Sun's equation of the centre</i> | | | | |
| | | | | minutes | | | | |
| 81 | 180 25-20700 | 5011-0702 | 77 41 42-91 | 2158-2014 | 0 0 58-73 | 0-4532 | 77 40 44-17 | 2157-7482 |
| 82 | 181 24-34376 | 5030-0480 | 78 40 51-08 | 2185-5793 | 0 3 16-52 | 1-5104 | 78 37 34-55 | 2184 0920 |
| 83 | 182 23-47992 | 5066-4250 | 79 39 59-24 | 2212-9571 | 0 5 34-31 | 2-5795 | 79 34 24-94 | 2210-3776 |
| 84 | 183 22-61608 | 5093-8037 | 80 39 7-41 | 2240-3350 | 0 7 52-10 | 3-6427 | 80 31 14-32 | 2236-6623 |
| 85 | 184 21-75224 | 5121-1816 | 81 38 15-58 | 2267-7128 | 0 10 9-08 | 4-6997 | 81 28 0-50 | 2263-0132 |
| 86 | 185 20-88839 | 5148-5594 | 82 37 23-75 | 2295-0907 | 0 12 25-08 | 5-7537 | 82 24 38-07 | 2289-3370 |
| 87 | 186 20-02455 | 5175-9373 | 83 36 31-92 | 2322-4685 | 0 14 42-29 | 6-8078 | 83 21 49-03 | 2315-6608 |
| 88 | 187 19-16071 | 5203-3151 | 84 35 40-09 | 2349-8464 | 0 16 58-89 | 7-8618 | 84 18 41-20 | 2341-9846 |
| 89 | 188 18-29687 | 5230-6930 | 85 34 48-26 | 2377-2242 | 0 19 14-53 | 8-9084 | 85 16 33-74 | 2368-3120 |
| 90 | 189 17-43303 | 5258-0708 | 86 33 56-43 | 2404-6021 | 0 21 29-36 | 9-9487 | 86 12 27-08 | 2394-6334 |
| 91 | 190 16-56919 | 5285-4487 | 87 33 4-60 | 2431-9799 | 0 23 44-19 | 10-9801 | 87 0 20-41 | 2420-9509 |
| 92 | 191 15-70535 | 5312-8266 | 88 32 12-77 | 2459-3578 | 0 25 59-08 | 12-0360 | 88 6 12-79 | 2447-3269 |
| 93 | 192 14-84151 | 5340-2044 | 89 31 20-94 | 2486-7357 | 0 28 13-03 | 13-0953 | 89 3 7-91 | 2473-6721 |
| 94 | 193 13-97767 | 5367-5823 | 90 30 29-11 | 2514-1135 | 0 30 26-09 | 14-0602 | 90 0 3-02 | 2500-0233 |
| 95 | 194 13-11383 | 5394-9601 | 91 29 37-28 | 2541-4914 | 0 32 39-13 | 15-1199 | 90 53 58-13 | 2526-3745 |
| 96 | 195 12-24999 | 5422-3380 | 92 28 45-45 | 2568-8692 | 0 34 50-82 | 16-1828 | 91 53 54-83 | 2552-7364 |
| 97 | 196 11-38615 | 5449-7158 | 93 27 53-62 | 2596-2471 | 0 37 0-92 | 17-1367 | 92 50 52-70 | 2579-1194 |
| 98 | 197 10-52231 | 5477-0937 | 94 27 1-79 | 2623-6249 | 0 39 11-02 | 18-1066 | 93 47 50-77 | 2605-4844 |
| 99 | 198 9-65846 | 5504-4715 | 95 26 9-96 | 2651-0028 | 0 41 21-12 | 19-1444 | 94 44 48-84 | 2631-8384 |
| 100 | 199 8-79462 | 5531-8494 | 96 25 18-13 | 2678-3806 | 0 43 29-52 | 20-1352 | 95 41 46-60 | 2658-2454 |
| 101 | 200 7-93078 | 5559-2272 | 97 24 26-30 | 2705-7585 | 0 45 36-07 | 21-1117 | 96 38 50-22 | 2684-6168 |
| 102 | 201 7-06694 | 5586-6051 | 98 23 34-47 | 2733-1363 | 0 47 42-03 | 22-0882 | 97 35 51-84 | 2711-0432 |
| 103 | 202 6-20310 | 5613-9829 | 99 22 42-64 | 2760-5142 | 0 49 40-18 | 23-0646 | 98 32 53-40 | 2737-4495 |
| 104 | 203 5-33926 | 5641-3608 | 100 21 50-81 | 2787-8920 | 0 51 53-00 | 24-0270 | 99 29 50-01 | 2763-8659 |
| 105 | 204 4-47542 | 5668-7386 | 101 20 58-98 | 2815-2699 | 0 53 56-40 | 24-9751 | 100 27 2-08 | 2790-2938 |

TABLE XLVIII B—Contd.

| 24-hour periods from true Māgha-sankrānti. | Sun's mean anomaly (or mean sun's distance from perigeo- point) ($^{\circ}E^{\circ}$). | | Sun's mean Longitude. | | Sun's equation of the centre, — | | Present Śhrya-Siddhānta | | |
|---|---|----------|-------------------------|---------|------------------------------------|---------|-------------------------|---------|-------------------------|
| | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. | \circ | 10,000ths of circle. |
| 106 | 205 | 3-01158 | 5696-1165 | 102 20 | 7-14 | 0 55 | 50-60 | 101 24 | 7-24 |
| 107 | 206 | 2-74774 | 5723-4943 | 103 19 | 15-31 | 0 58 | 2-91 | 102 21 | 12-41 |
| 108 | 207 | 1-88390 | 5750-8722 | 104 18 | 23-48 | 1 0 | 4-04 | 103 18 | 19-45 |
| 109 | 208 | 1-02906 | 5778-2500 | 105 17 | 31-65 | 1 2 | 3-49 | 104 15 | 26-16 |
| 110 | 209 | 0-15622 | 5805-6279 | 106 16 | 39-82 | 1 4 | 2-95 | 105 12 | 36-88 |
| 111 | 209 | 50-29238 | 5833-0057 | 107 15 | 47-00 | 1 6 | 2-40 | 106 9 | 45-59 |
| 112 | 210 | 58-42854 | 5860-3836 | 108 14 | 56-16 | 1 7 | 56-02 | 107 7 | 0-15 |
| 113 | 211 | 57-56469 | 5887-7614 | 109 14 | 4-33 | 1 9 | 50-15 | 108 4 | 14-18 |
| 114 | 212 | 56-70085 | 5915-1393 | 110 13 | 12-50 | 1 11 | 44-28 | 109 1 | 28-22 |
| 115 | 213 | 55-83701 | 5942-5171 | 111 12 | 20-67 | 1 13 | 37-76 | 109 58 | 42-91 |
| 116 | 214 | 54-97317 | 5969-8950 | 112 11 | 28-84 | 1 15 | 27-17 | 110 56 | 1-67 |
| 117 | 215 | 54-10933 | 5997-2728 | 113 10 | 37-01 | 1 17 | 16-57 | 111 53 | 20-44 |
| 118 | 216 | 53-24549 | 6024-6507 | 114 9 | 45-18 | 1 19 | 5-97 | 112 50 | 39-21 |
| 119 | 217 | 52-38165 | 6052-0285 | 115 8 | 53-35 | 1 20 | 52-05 | 113 48 | 1-30 |
| 120 | 218 | 51-51781 | 6079-4064 | 116 8 | 1-52 | 1 22 | 35-53 | 114 45 | 25-98 |
| 121 | 219 | 50-65397 | 6106-7842 | 117 7 | 9-69 | 1 24 | 10-02 | 115 42 | 50-67 |
| 122 | 220 | 49-79013 | 6134-1621 | 118 6 | 17-86 | 1 26 | 2-51 | 116 40 | 15-35 |
| 123 | 221 | 48-92629 | 6161-5399 | 119 5 | 26-03 | 1 27 | 42-60 | 117 37 | 43-43 |
| 124 | 222 | 48-06245 | 6188-9178 | 120 4 | 34-20 | 1 29 | 20-17 | 118 35 | 14-02 |
| 125 | 223 | 47-19861 | 6216-2957 | 121 3 | 42-37 | 1 30 | 57-75 | 119 42 | 44-62 |
| 126 | 224 | 46-33477 | 6243-6735 | 122 2 | 50-54 | 1 32 | 35-32 | 120 30 | 15-21 |
| 127 | 225 | 45-47092 | 6271-0514 | 123 1 | 58-71 | 1 34 | 6-86 | 121 27 | 52-10 |
| 128 | 226 | 44-60708 | 6298-4292 | 124 1 | 6-88 | 1 35 | 37-93 | 122 25 | 28-94 |
| 129 | 227 | 43-74324 | 6325-8071 | 125 0 | 15-04 | 1 37 | 9-00 | 123 23 | 6-04 |
| 130 | 228 | 42-87940 | 6353-1849 | 125 59 | 23-21 | 1 38 | 40-07 | 124 20 | 43-14 |
| 131 | 229 | 42-01556 | 6380-5628 | 126 58 | 31-38 | 1 39 | 25-14 | 125 18 | 30-24 |
| 132 | 230 | 41-15172 | 6408-9406 | 127 57 | 39-55 | 1 40 | 10-21 | 126 16 | 17-34 |
| 133 | 231 | 40-28788 | 6436-3185 | 128 56 | 47-72 | 1 41 | 25-28 | 127 15 | 4-44 |
| 134 | 232 | 39-42404 | 6463-6963 | 129 55 | 55-89 | 1 42 | 40-35 | 128 14 | 11-54 |
| 135 | 233 | 38-56020 | 6491-0742 | 130 54 | 64-06 | 1 43 | 55-42 | 129 13 | 19-04 |
| 136 | 234 | 37-69636 | 6518-4520 | 131 53 | 72-23 | 1 44 | 70-49 | 130 12 | 26-14 |
| 137 | 235 | 36-83252 | 6545-8299 | 132 52 | 80-40 | 1 45 | 85-56 | 131 11 | 33-24 |
| 138 | 236 | 35-96868 | 6573-2077 | 133 51 | 88-57 | 1 46 | 100-63 | 132 10 | 40-34 |
| 139 | 237 | 35-10484 | 6600-5856 | 134 50 | 96-74 | 1 47 | 115-70 | 133 9 | 47-44 |
| 140 | 238 | 34-24100 | 6627-9634 | 135 49 | 104-91 | 1 48 | 130-77 | 134 8 | 54-54 |
| 141 | 239 | 33-37716 | 6655-3413 | 136 48 | 113-08 | 1 49 | 145-84 | 135 7 | 61-64 |
| 142 | 240 | 32-51332 | 6682-7191 | 137 47 | 121-25 | 1 50 | 160-91 | 136 6 | 68-74 |
| 143 | 241 | 31-64948 | 6710-0970 | 138 46 | 129-42 | 1 51 | 175-98 | 137 5 | 75-84 |
| 144 | 242 | 30-78564 | 6737-4748 | 139 45 | 137-59 | 1 52 | 191-05 | 138 4 | 82-94 |
| 145 | 243 | 29-92180 | 6764-8527 | 140 44 | 145-76 | 1 53 | 206-12 | 139 3 | 90-04 |
| 146 | 244 | 29-05796 | 6792-2305 | 141 43 | 153-93 | 1 54 | 221-19 | 140 2 | 97-14 |
| 147 | 245 | 28-19412 | 6819-6084 | 142 42 | 162-10 | 1 55 | 236-26 | 141 1 | 104-24 |
| 148 | 246 | 27-33028 | 6846-9862 | 143 41 | 170-27 | 1 56 | 251-33 | 142 0 | 111-34 |
| 149 | 247 | 26-46644 | 6874-3641 | 144 40 | 178-44 | 1 57 | 266-40 | 143 0 | 118-44 |
| 150 | 248 | 25-60260 | 6901-7419 | 145 39 | 186-61 | 1 58 | 281-47 | 144 0 | 125-54 |
| 151 | 249 | 24-73876 | 6929-1198 | 146 38 | 194-78 | 1 59 | 296-54 | 145 0 | 132-64 |
| 152 | 250 | 23-87492 | 6956-4976 | 147 37 | 202-95 | 1 60 | 311-61 | 146 0 | 139-74 |
| 153 | 251 | 23-01108 | 6983-8755 | 148 36 | 211-12 | 1 61 | 326-68 | 147 0 | 146-84 |
| 154 | 252 | 22-14724 | 7011-2533 | 149 35 | 219-29 | 1 62 | 341-75 | 148 0 | 153-94 |
| 155 | 253 | 21-28340 | 7038-6312 | 150 34 | 227-46 | 1 63 | 356-82 | 149 0 | 161-04 |
| 156 | 254 | 20-41956 | 7066-0090 | 151 33 | 235-63 | 1 64 | 371-89 | 150 0 | 168-14 |
| 157 | 255 | 19-55572 | 7093-3869 | 152 32 | 243-80 | 1 65 | 386-96 | 151 0 | 175-24 |
| 158 | 256 | 18-69188 | 7120-7647 | 153 31 | 251-97 | 1 66 | 401-03 | 152 0 | 182-34 |
| 159 | 257 | 17-82804 | 7148-1426 | 154 30 | 260-14 | 1 67 | 416-10 | 153 0 | 189-44 |
| 160 | 258 | 16-96420 | 7175-5204 | 155 29 | 268-31 | 1 68 | 431-17 | 154 0 | 196-54 |
| 161 | 259 | 16-10036 | 7202-8983 | 156 28 | 276-48 | 1 69 | 446-24 | 155 0 | 203-64 |
| 162 | 260 | 15-23652 | 7230-2761 | 157 27 | 284-65 | 1 70 | 461-31 | 156 0 | 210-74 |
| 163 | 261 | 14-37268 | 7257-6540 | 158 26 | 292-82 | 1 71 | 476-38 | 157 0 | 217-84 |
| 164 | 262 | 13-50884 | 7285-0318 | 159 25 | 300-99 | 1 72 | 491-45 | 158 0 | 224-94 |
| 165 | 263 | 12-64500 | 7312-4097 | 160 24 | 309-16 | 1 73 | 506-52 | 159 0 | 232-04 |
| 166 | 264 | 11-78116 | 7339-7875 | 161 23 | 317-33 | 1 74 | 521-59 | 160 0 | 239-14 |
| 167 | 265 | 10-91732 | 7367-1654 | 162 22 | 325-50 | 1 75 | 536-66 | 161 0 | 246-24 |
| 168 | 266 | 10-05348 | 7394-5432 | 163 21 | 333-67 | 1 76 | 551-73 | 162 0 | 253-34 |
| 169 | 267 | 9-18964 | 7421-9211 | 164 20 | 341-84 | 1 77 | 566-80 | 163 0 | 260-44 |
| 170 | 268 | 8-32580 | 7449-2989 | 165 19 | 350-01 | 1 78 | 581-87 | 164 0 | 267-54 |
| 171 | 269 | 7-46196 | 7476-6768 | 166 18 | 358-18 | 1 79 | 596-94 | 165 0 | 274-64 |
| 172 | 270 | 6-59812 | 7504-0546 | 167 17 | 366-35 | 1 80 | 611-01 | 166 0 | 281-74 |
| 173 | 271 | 5-73428 | 7531-4325 | 168 16 | 374-52 | 1 81 | 626-08 | 167 0 | 288-84 |
| 174 | 272 | 4-87044 | 7558-8103 | 169 15 | 382-69 | 1 82 | 641-15 | 168 0 | 295-94 |
| 175 | 273 | 4-00660 | 7586-1882 | 170 14 | 390-86 | 1 83 | 656-22 | 169 0 | 303-04 |
| 176 | 274 | 3-14276 | 7613-5660 | 171 13 | 399-03 | 1 84 | 671-29 | 170 0 | 310-14 |
| 177 | 275 | 2-27892 | 7640-9439 | 172 12 | 407-20 | 1 85 | 686-36 | 171 0 | 317-24 |
| 178 | 276 | 1-41508 | 7668-3217 | 173 11 | 415-37 | 1 86 | 701-43 | 172 0 | 324-34 |
| 179 | 277 | 0-55124 | 7695-6996 | 174 10 | 423-54 | 1 87 | 716-50 | 173 0 | 331-44 |
| 180 | 278 | 0-68740 | 7723-0774 | 175 9 | 431-71 | 1 88 | 731-57 | 174 0 | 338-54 |
| 181 | 279 | 0-82356 | 7750-4553 | 176 8 | 439-88 | 1 89 | 746-64 | 175 0 | 345-64 |
| 182 | 280 | 0-95972 | 7777-8331 | 177 7 | 448-05 | 1 90 | 761-71 | 176 0 | 352-74 |
| 183 | 281 | 1-09588 | 7805-2110 | 178 6 | 456-22 | 1 91 | 776-78 | 177 0 | 359-84 |
| 184 | 282 | 1-23204 | 7832-5888 | 179 5 | 464-39 | 1 92 | 791-85 | 178 0 | 366-94 |
| 185 | 283 | 1-36820 | 7860-9667 | 180 4 | 472-56 | 1 93 | 806-92 | 179 0 | 374-04 |
| 186 | 284 | 1-50436 | 7888-3445 | 181 3 | 480-73 | 1 94 | 821-99 | 180 0 | 381-14 |
| 187 | 285 | 1-64052 | 7915-7224 | 182 2 | 488-90 | 1 95 | 837-06 | 181 0 | 388-24 |
| 188 | 286 | 1-77668 | 7943-1002 | 183 1 | 497-07 | 1 96 | 852-13 | 182 0 | 395-34 |
| 189 | 287 | 1-91284 | 7970-4780 | 184 0 | 505-24 | 1 97 | 867-20 | 183 0 | 402-44 |
| 190 | 288 | 2-04900 | 7997-8559 | 185 0 | 513-41 | 1 98 | 882-27 | 184 0 | 409-54 |
| 191 | 289 | 2-18516 | 8025-2337 | 186 0 | 521-58 | 1 99 | 897-34 | 185 0 | 416-64 |
| 192 | 290 | 2-32132 | 8052-6116 | 187 0 | 529-75 | 2 00 | 912-41 | 186 0 | 423-74 |
| 193 | 291 | 2-45748 | 8080-9894 | 188 0 | 537-92 | 2 01 | 927-48 | 187 0 | 430-84 |
| 194 | 292 | 2-59364 | 8108-3673 | 189 0 | 546-09 | 2 02 | 942-55 | 188 0 | 437-94 |
| 195 | 293 | 2-72980 | 8135-7451 | 190 0 | 554-26 | 2 03 | 957-62 | 189 0 | 445-04 |
| 196 | 294 | 2-86596 | 8163-1230 | 191 0 | 562-43 | 2 04 | 972-69 | 190 0 | 452-14 |
| 197 | 295 | 3-00212 | 8190-5008 | 192 0 | 570-60 | 2 05 | 987-76 | 191 0 | 459-24 |
| 198 | 296 | 3-13828 | 8217-8787 | 193 0 | 578-77 | 2 06 | 1002-83 | 192 0 | 466-34 |
| 199 | 297 | 3-27444 | 8245-2565 | 194 0 | 586-94 | 2 07 | 1017-90 | 193 0 | 473-44 |
| 200 | 298 | 3-41060 | 8272-6344 | 195 0 | 595-11 | 2 08 | 1032-97 | 194 0 | 480-54 |
| 201 | 299 | 3-54676 | 8300-0122 | 196 0 | 603-28 | 2 09 | 1048-04 | 195 0 | 487-64 |
| 202 | 300 | 3-68292 | 8327-3901 | 197 0 | 611-45 | 2 10 | 1063-11 | 196 0 | 494-74 |
| 203 | 301 | 3-81908 | 8354-7679 | 198 0 | 619-62 | 2 11 | 1078-18 | 197 0 | 501-84 |
| 204 | 302 | 3-95524 | 8382-1458 | 199 0 | 627-79 | 2 12 | 1093-25 | 198 0 | 508-94 |
| 205 | 303 | 4-09140 | 8409-5236 | 200 0 | 635-96 | 2 13 | 1108-32 | 199 0 | 516-04 |
| 206 | 304 | 4-22756 | 8436-9015 | 201 0 | 644-13 | 2 14 | 1123-39 | 200 0 | 523-14 |
| 207 | 305 | 4-36372 | 8464-2793 | 202 0 | 652-30 | 2 15 | 1138-46 | 201 0 | 530-24 |
| 208 | 306 | 4-50000 | 8491-6572 | 203 0 | 660-47 | 2 16 | 1153-53 | 202 0 | 537-34 |
| 209 | 307 | 4-63616 | 8519-0350 | 204 0 | 668-64 | 2 17 | 1168-60 | 203 0 | 544-44 |
| 210 | 308 | 4-77232 | 8546-4129 | 205 0 | 676-81 | 2 18 | 1183-67 | 204 0 | 551-54 |
| 211 | 309 | 4-90848 | 8573-7907 | 206 0 | 684-98 | 2 19 | 1198-74 | 205 0 | 558-64 |
| 212 | 310 | 5-04464 | 8601-1686 | 207 0 | 693-15 | 2 | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|--------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 131 | 229 42-01556 | 6380-5038 | 126 58 21-38 | 3527-6640 | 1 40 5-22 | 46-9366 | 125 18 20-16 | 3480-7574 |
| 132 | 230 41-15172 | 6407-9406 | 127 57 39-55 | 3554-4719 | 1 41 29-78 | 46-9891 | 126 16 0-77 | 3507-4828 |
| 133 | 231 40-28788 | 6435-3185 | 128 56 47-72 | 3581-8497 | 1 42 54-35 | 47-0416 | 127 13 53-38 | 3534-2081 |
| 134 | 232 39-42404 | 6462-6963 | 129 55 55-89 | 3600-2276 | 1 44 17-30 | 48-2816 | 128 11 38-59 | 3560-9459 |
| 135 | 233 38-56020 | 6490-0742 | 130 55 4-06 | 3630-6054 | 1 45 34-77 | 48-8794 | 129 9 29-29 | 3587-7266 |
| 136 | 234 37-69636 | 6517-4520 | 131 54 12-23 | 3663-9833 | 1 46 52-24 | 49-4771 | 130 7 19-99 | 3614-5061 |
| 137 | 235 36-83252 | 6544-8299 | 132 53 20-40 | 3691-3611 | 1 48 0-71 | 50-0749 | 131 5 10-69 | 3641-2862 |
| 138 | 236 35-96868 | 6572-2077 | 133 52 28-57 | 3718-7390 | 1 49 23-06 | 50-6455 | 132 3 4-91 | 3668-0635 |
| 139 | 237 35-10484 | 6599-5856 | 134 51 36-74 | 3746-1168 | 1 50 33-44 | 51-1839 | 133 1 3-30 | 3694-6329 |
| 140 | 238 34-24100 | 6626-9634 | 135 50 44-91 | 3773-4947 | 1 51 43-22 | 51-7224 | 133 59 1-69 | 3721-7723 |
| 141 | 239 33-37715 | 6654-3413 | 136 49 53-08 | 3800-8725 | 1 52 53-00 | 52-2608 | 134 57 0-08 | 3748-6117 |
| 142 | 240 32-51331 | 6681-7191 | 137 49 1-25 | 3828-2504 | 1 53 59-50 | 52-7739 | 135 55 1-75 | 3775-4765 |
| 143 | 241 31-64947 | 6709-0970 | 138 48 9-42 | 3855-6282 | 1 55 1-59 | 53-2530 | 136 53 7-83 | 3802-3752 |
| 144 | 242 30-78563 | 6736-4748 | 139 47 17-59 | 3883-0061 | 1 56 3-68 | 53-7321 | 137 51 13-90 | 3829-2740 |
| 145 | 243 29-92179 | 6763-8527 | 140 46 25-76 | 3910-3839 | 1 57 5-78 | 54-2112 | 138 49 19-08 | 3856-1727 |
| 146 | 244 29-05795 | 6791-2305 | 141 45 33-92 | 3937-7618 | 1 58 2-84 | 54-6516 | 139 47 31-00 | 3883-1102 |
| 147 | 245 28-19411 | 6818-6084 | 142 44 42-10 | 3965-1396 | 1 58 57-25 | 55-0714 | 140 45 44-85 | 3910-0683 |
| 148 | 246 27-33027 | 6845-9862 | 143 43 50-27 | 3992-5175 | 1 59 51-05 | 55-4911 | 141 43 58-61 | 3937-0253 |
| 149 | 247 26-46643 | 6873-3641 | 144 42 58-44 | 4019-8953 | 2 0 46-06 | 55-9110 | 142 42 12-38 | 3963-9844 |
| 150 | 248 25-60259 | 6900-7419 | 145 42 6-61 | 4047-2732 | 2 1 33-27 | 56-2752 | 143 40 33-34 | 3990-9980 |
| 151 | 249 24-73875 | 6928-1198 | 146 41 14-77 | 4074-6510 | 2 2 19-40 | 56-6311 | 144 38 55-38 | 4018-0199 |
| 152 | 250 23-87491 | 6955-4976 | 147 40 22-94 | 4102-0289 | 2 3 5-52 | 56-9870 | 145 37 17-42 | 4045-0418 |
| 153 | 251 23-01107 | 6982-8755 | 148 39 31-11 | 4129-4067 | 2 3 51-15 | 57-3391 | 146 35 39-97 | 4072-0676 |
| 154 | 252 22-14723 | 7010-2533 | 149 38 39-28 | 4156-7846 | 2 4 28-99 | 57-6311 | 147 34 10-29 | 4099-1535 |
| 155 | 253 21-28338 | 7037-6312 | 150 37 47-45 | 4184-1624 | 2 5 6-84 | 57-9232 | 148 32 40-61 | 4126-2393 |
| 156 | 254 20-41954 | 7065-0090 | 151 36 55-62 | 4211-5403 | 2 5 44-69 | 58-2152 | 149 31 10-63 | 4153-3251 |
| 157 | 255 19-55570 | 7092-3869 | 152 35 3-79 | 4238-9181 | 2 6 20-56 | 58-4919 | 150 29 43-24 | 4180-4262 |
| 158 | 256 18-69186 | 7119-7648 | 153 35 11-06 | 4266-2960 | 2 6 50-12 | 58-7201 | 151 28 21-84 | 4207-5769 |
| 159 | 257 17-82802 | 7147-1426 | 154 34 20-13 | 4293-6739 | 2 7 19-60 | 58-9482 | 152 27 0-44 | 4234-7250 |
| 160 | 258 16-96418 | 7174-5205 | 155 33 28-30 | 4321-0517 | 2 7 49-26 | 59-1704 | 153 25 39-04 | 4261-8753 |
| 161 | 259 16-10034 | 7201-8983 | 156 32 36-47 | 4348-4296 | 2 8 15-77 | 59-3890 | 154 24 20-70 | 4289-0486 |
| 162 | 260 15-23650 | 7229-2762 | 157 31 44-64 | 4375-8074 | 2 8 37-05 | 59-5498 | 155 23 6-09 | 4316-2576 |
| 163 | 261 14-37266 | 7256-6540 | 158 30 52-81 | 4403-1853 | 2 8 59-53 | 59-7186 | 156 21 53-28 | 4343-4767 |
| 164 | 262 13-50882 | 7284-0319 | 159 30 0-08 | 4430-5631 | 2 9 21-41 | 59-8874 | 157 20 39-57 | 4370-6757 |
| 165 | 263 12-64498 | 7311-4097 | 160 29 9-15 | 4457-9410 | 2 9 35-02 | 59-9994 | 158 19 33-22 | 4397-9415 |

TABLE XLVIII B—Contd.

| 24-hour periods from true Mēsha samkrānti. | Sun's mean anomaly (or mean sun's distance from perige- on) ($^{\circ}, \frac{1}{60}'$). | | | | Sun's mean Longitude, — | | | | Sun's equation of the centre, — | | | | Present Śhrya-Siddhānta, — | | | |
|---|---|----------|------------|-----|----------------------------|-------|------------|-----|------------------------------------|-------|------------|-----|-------------------------------|-------|------------|-------------------------|
| 1 | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | |
| | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ |
| 165 | 264 | 11-78114 | 7398-7879 | 161 | 28 | 17-32 | 4453-3188 | 179 | 18 | 23-38 | 60-0008 | 179 | 18 | 23-38 | 4425-2100 | 10,000ths of circle. |
| 166 | 265 | 10-01730 | 7396-1634 | 162 | 27 | 25-49 | 4512-0967 | 180 | 17 | 23-34 | 60-2002 | 180 | 17 | 23-34 | 4432-4965 | |
| 167 | 266 | 10-05345 | 7393-5433 | 163 | 26 | 33-06 | 4569-0745 | 191 | 10 | 18-70 | 60-3000 | 191 | 10 | 18-70 | 4479-7730 | |
| 168 | 267 | 9-18961 | 7420-9211 | 164 | 25 | 41-23 | 4567-4524 | 192 | 15 | 22-59 | 60-3336 | 192 | 15 | 22-59 | 4507-1187 | |
| 169 | 268 | 8-32577 | 7448-2990 | 165 | 24 | 50-00 | 4594-8302 | 193 | 14 | 26-62 | 60-3650 | 193 | 14 | 26-62 | 4534-4547 | |
| 170 | 269 | 7-46193 | 7475-6769 | 166 | 23 | 58-17 | 4622-2081 | 194 | 13 | 30-65 | 60-3976 | 194 | 13 | 30-65 | 4561-8106 | |
| 171 | 270 | 6-59809 | 7503-0547 | 167 | 23 | 0-34 | 4649-5839 | 195 | 12 | 35-80 | 60-4298 | 195 | 12 | 35-80 | 4589-1051 | |
| 172 | 271 | 5-73425 | 7530-4325 | 168 | 22 | 14-31 | 4676-9638 | 196 | 11 | 48-11 | 60-4689 | 196 | 11 | 48-11 | 4616-5740 | |
| 173 | 272 | 4-87041 | 7557-8104 | 169 | 21 | 22-67 | 4704-3410 | 197 | 11 | 0-42 | 60-5009 | 197 | 11 | 0-42 | 4643-9847 | |
| 174 | 273 | 4-00657 | 7585-1882 | 170 | 20 | 30-84 | 4731-7193 | 198 | 10 | 12-73 | 60-5250 | 198 | 10 | 12-73 | 4671-3943 | |
| 175 | 274 | 3-14273 | 7612-5661 | 171 | 19 | 39-01 | 4759-0973 | 199 | 9 | 27-56 | 60-5736 | 199 | 9 | 27-56 | 4698-8288 | |
| 176 | 275 | 2-27889 | 7639-9439 | 172 | 18 | 47-18 | 4786-4752 | 200 | 8 | 48-74 | 60-5732 | 200 | 8 | 48-74 | 4726-3020 | |
| 177 | 276 | 1-41505 | 7667-3218 | 173 | 17 | 55-35 | 4813-8530 | 201 | 8 | 9-02 | 60-0728 | 201 | 8 | 9-02 | 4753-7803 | |
| 178 | 277 | 0-55121 | 7694-6996 | 174 | 17 | 3-52 | 4841-2309 | 202 | 7 | 31-10 | 59-0724 | 202 | 7 | 31-10 | 4781-2585 | |
| 179 | 277 | 59-68737 | 7722-0775 | 175 | 16 | 11-09 | 4868-6087 | 203 | 6 | 56-13 | 59-8423 | 203 | 6 | 56-13 | 4808-7053 | |
| 180 | 278 | 58-82353 | 7749-4553 | 176 | 15 | 19-30 | 4895-9866 | 204 | 8 | 53-08 | 59-6734 | 204 | 8 | 53-08 | 4836-3132 | |
| 181 | 279 | 57-95969 | 7776-8332 | 177 | 14 | 28-03 | 4923-3644 | 205 | 8 | 31-80 | 59-5040 | 205 | 8 | 31-80 | 4863-8598 | |
| 182 | 280 | 57-09584 | 7804-2110 | 178 | 13 | 36-30 | 4950-7423 | 206 | 8 | 9-92 | 59-3358 | 206 | 8 | 9-92 | 4891-4005 | |
| 183 | 281 | 56-23200 | 7831-5889 | 179 | 12 | 44-37 | 4978-1201 | 207 | 7 | 43-65 | 59-1331 | 207 | 7 | 43-65 | 4918-9871 | |
| 184 | 282 | 55-36816 | 7858-9667 | 180 | 11 | 52-54 | 5005-4980 | 208 | 7 | 10-08 | 58-9049 | 208 | 7 | 10-08 | 4946-5931 | |
| 185 | 283 | 54-50432 | 7886-3446 | 181 | 11 | 0-71 | 5032-8758 | 209 | 0 | 44-51 | 58-6708 | 209 | 0 | 44-51 | 4974-1991 | |
| 186 | 284 | 53-64048 | 7913-7224 | 182 | 10 | 8-88 | 5060-2537 | 210 | 6 | 14-94 | 58-4486 | 210 | 6 | 14-94 | 5001-8051 | |
| 187 | 285 | 52-77664 | 7941-1003 | 183 | 9 | 17-05 | 5087-6315 | 211 | 6 | 37-00 | 58-1559 | 211 | 6 | 37-00 | 5029-4757 | |
| 188 | 286 | 51-91280 | 7968-4781 | 184 | 8 | 25-22 | 5115-0094 | 212 | 4 | 59-15 | 57-8938 | 212 | 4 | 59-15 | 5057-1456 | |
| 189 | 287 | 51-04896 | 7995-8560 | 185 | 7 | 33-39 | 5142-3872 | 213 | 4 | 21-31 | 57-5718 | 213 | 4 | 21-31 | 5084-8154 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|--------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 191 | 288 50-18512 | 8023-2539 | 186 6 41-56 | 5160-7651 | 2 3 41-98 | 57-2983 | 184 2 59-58 | 5112-4068 |
| 192 | 289 49-32128 | 8050-6117 | 187 5 40-73 | 5197-1430 | 2 2 53-85 | 56-9124 | 185 2 53-88 | 5140-2305 |
| 193 | 290 48-45744 | 8077-9890 | 188 4 57-90 | 5224-5208 | 2 2 0-72 | 56-5665 | 186 2 48-17 | 5167-9643 |
| 194 | 291 47-50360 | 8105-3074 | 189 4 6-07 | 5251-8087 | 2 1 23-60 | 56-2060 | 187 2 42-47 | 5195-0981 |
| 195 | 292 46-72976 | 8132-7453 | 190 3 14-24 | 5279-2769 | 2 0 34-51 | 55-8218 | 188 2 39-73 | 5223-4547 |
| 196 | 293 45-86591 | 8160-1231 | 191 2 22-40 | 5306-6544 | 1 59 40-10 | 55-4020 | 189 2 42-30 | 5251-2823 |
| 197 | 294 45-00207 | 8187-5010 | 192 1 30-57 | 5334-6322 | 1 58 45-70 | 54-9822 | 190 2 44-88 | 5279-0560 |
| 198 | 295 44-13823 | 8214-8788 | 193 0 38-74 | 5361-4101 | 1 57 51-29 | 54-5624 | 191 2 47-45 | 5306-8476 |
| 199 | 296 43-27439 | 8242-2567 | 193 59 46-91 | 5388-7879 | 1 56 52-62 | 54-1097 | 192 2 54-20 | 5334-6782 |
| 200 | 297 42-41055 | 8269-6345 | 194 58 55-08 | 5416-1658 | 1 55 50-53 | 53-6306 | 193 3 4-56 | 5362-5351 |
| 201 | 298 41-54671 | 8297-0134 | 195 58 3-25 | 5443-5436 | 1 54 48-43 | 53-1515 | 194 3 14-82 | 5390-3021 |
| 202 | 299 40-68287 | 8324-3962 | 196 57 11-42 | 5470-9215 | 1 53 46-34 | 52-6724 | 195 3 25-08 | 5418-2491 |
| 203 | 300 39-81903 | 8351-7681 | 197 56 19-59 | 5498-2993 | 1 52 38-37 | 52-1479 | 196 3 41-22 | 5446-1514 |
| 204 | 301 38-95522 | 8379-1459 | 198 55 27-75 | 5525-6772 | 1 51 28-59 | 51-6095 | 197 3 59-17 | 5474-0677 |
| 205 | 302 38-09135 | 8406-5238 | 199 54 35-95 | 5553-6650 | 1 50 18-81 | 51-0711 | 198 4 17-12 | 5501-0340 |
| 206 | 303 37-22751 | 8433-9010 | 200 53 44-10 | 5580-4329 | 1 49 9-03 | 50-5326 | 199 4 25-07 | 5529-9002 |
| 207 | 304 36-36367 | 8461-2795 | 201 52 52-27 | 5607-8197 | 1 47 51-53 | 49-8954 | 200 5 0-64 | 5557-8753 |
| 208 | 305 35-49983 | 8488-6573 | 202 52 0-44 | 5635-1886 | 1 46 34-16 | 49-3377 | 201 5 26-28 | 5585-8509 |
| 209 | 306 34-63599 | 8516-0352 | 203 51 8-61 | 5662-5604 | 1 45 16-69 | 48-7399 | 202 5 51-92 | 5613-8265 |
| 210 | 307 33-77214 | 8543-4130 | 204 50 16-78 | 5689-9443 | 1 43 59-55 | 48-1448 | 203 6 17-22 | 5641-7905 |
| 211 | 308 32-90830 | 8570-7809 | 205 49 24-95 | 5717-3221 | 1 42 35-00 | 47-4923 | 204 6 40-95 | 5669-8290 |
| 212 | 309 32-04446 | 8598-1087 | 206 48 32-12 | 5744-7000 | 1 41 10-43 | 46-8398 | 205 7 22-60 | 5697-8602 |
| 213 | 310 31-18062 | 8625-5406 | 207 47 41-29 | 5772-0778 | 1 39 45-87 | 46-1873 | 206 7 55-42 | 5725-8906 |
| 214 | 311 30-31678 | 8652-9244 | 208 46 49-46 | 5799-4557 | 1 38 20-10 | 45-5355 | 207 8 29-36 | 5753-9302 |
| 215 | 312 29-45294 | 8680-3023 | 209 45 57-63 | 5826-8335 | 1 36 49-03 | 44-8228 | 208 9 8-60 | 5782-0108 |
| 216 | 313 28-58910 | 8707-6801 | 210 45 5-80 | 5854-2114 | 1 35 17-95 | 44-1201 | 209 9 47-84 | 5810-9913 |
| 217 | 314 27-72526 | 8735-0580 | 211 44 13-07 | 5881-5892 | 1 33 46-89 | 43-4174 | 210 10 27-08 | 5838-1719 |
| 218 | 315 26-86142 | 8762-4358 | 212 43 22-14 | 5908-9671 | 1 32 12-51 | 42-6892 | 211 11 9-02 | 5866-2779 |
| 219 | 316 25-99758 | 8789-8137 | 213 42 30-30 | 5936-3440 | 1 30 34-04 | 41-9263 | 212 11 55-36 | 5894-4087 |
| 220 | 317 25-13374 | 8817-1915 | 214 41 35-47 | 5963-7228 | 1 28 57-37 | 41-1834 | 213 12 41-11 | 5922-5394 |
| 221 | 318 24-26990 | 8844-5694 | 215 40 46-64 | 5991-1006 | 1 27 19-73 | 40-4305 | 214 13 20-85 | 5950-6702 |
| 222 | 319 23-40606 | 8871-9472 | 216 39 54-81 | 6018-4785 | 1 25 39-41 | 39-6550 | 215 14 15-49 | 5978-8229 |
| 223 | 320 22-54222 | 8898-3251 | 217 39 2-98 | 6045-8503 | 1 23 55-92 | 38-8574 | 216 15 7-06 | 6006-9989 |
| 224 | 321 21-67837 | 8926-7030 | 218 38 11-15 | 6073-2342 | 1 22 12-43 | 38-0580 | 217 15 58-72 | 6035-1763 |
| 225 | 322 20-81453 | 8954-0808 | 219 37 19-32 | 6100-6121 | 1 20 28-94 | 37-2604 | 218 16 50-38 | 6063-3517 |

TABLE XLVIII B—Contd.

| Present Sārya-Siddhānta. | | | | | | | | | | | | | | | | | |
|---|-----|---|-----------|-------------------------|-----------------------|----|-------------------------|-----------|-------------------------------|-------------------------|-------|---------|--|----|-------|-------------------------|--|
| 24-hour periods from true Mēṣha-samkrānti. | | Sun's mean anomaly (or mean sun's distance from perigee- point) ($^{\circ}C^{\circ}$). | | | Sun's mean Longitude. | | | | Sun's equation of the centre. | | | | Sun's true Longitude ($^{\circ}S^{\circ}$). | | | | |
| | | 2 | | 3 | 4 | | 5 | 6 | | 7 | 8 | | 9 | | | | |
| | | 0 | ' | 10,000ths of circle. | 0 | ' | 10,000ths of circle. | 0 | ' | 10,000ths of circle. | 0 | ' | 10,000ths of circle. | 0 | ' | 10,000ths of circle. | |
| 226 | 323 | 19-05009 | 8981-4587 | | 220 | 36 | 27-49 | 6127-9899 | 1 | 19 | 40-47 | 36-4234 | 219 | 17 | 47-02 | 6091-5065 | |
| 227 | 324 | 19-08685 | 9008-8365 | | 221 | 35 | 25-66 | 6155-3678 | 1 | 16 | 51-07 | 35-5792 | 220 | 18 | 44-59 | 6119-7885 | |
| 228 | 325 | 18-22301 | 9036-2144 | | 222 | 34 | 43-83 | 6182-7456 | 1 | 15 | 1-07 | 34-7351 | 221 | 19 | 42-16 | 6148-0105 | |
| 229 | 326 | 17-35917 | 9063-5922 | | 223 | 33 | 52-00 | 6210-1235 | 1 | 13 | 13-16 | 33-8979 | 222 | 20 | 38-84 | 6176-2256 | |
| 230 | 327 | 16-49533 | 9090-9701 | | 224 | 33 | 0-17 | 6237-5013 | 1 | 11 | 19-03 | 33-0172 | 223 | 21 | 41-14 | 6204-4341 | |
| 231 | 328 | 15-63148 | 9118-3479 | | 225 | 32 | 8-34 | 6264-8792 | 1 | 9 | 24-50 | 32-1366 | 224 | 22 | 43-44 | 6232-7420 | |
| 232 | 329 | 14-76765 | 9145-7258 | | 226 | 31 | 16-51 | 6292-2570 | 1 | 7 | 30-76 | 31-2559 | 225 | 23 | 45-74 | 6261-0011 | |
| 233 | 330 | 13-90381 | 9173-1036 | | 227 | 30 | 24-68 | 6319-6349 | 1 | 5 | 35-16 | 30-3639 | 226 | 24 | 49-61 | 6289-2709 | |
| 234 | 331 | 13-03997 | 9200-4815 | | 228 | 29 | 32-85 | 6347-0127 | 1 | 3 | 35-71 | 29-4422 | 227 | 25 | 57-14 | 6317-5765 | |
| 235 | 332 | 12-17613 | 9227-8593 | | 229 | 28 | 41-02 | 6374-3900 | 1 | 1 | 36-25 | 28-5205 | 228 | 27 | 4-78 | 6345-8701 | |
| 236 | 333 | 11-31229 | 9255-2372 | | 230 | 27 | 49-19 | 6401-7684 | 0 | 59 | 36-80 | 27-5988 | 229 | 28 | 12-39 | 6374-1667 | |
| 237 | 334 | 10-44844 | 9282-6150 | | 231 | 26 | 57-36 | 6429-1463 | 0 | 57 | 36-40 | 26-6697 | 230 | 29 | 20-96 | 6402-4765 | |
| 238 | 335 | 9-58460 | 9309-9929 | | 232 | 26 | 5-53 | 6456-5241 | 0 | 55 | 33-40 | 25-7307 | 231 | 30 | 32-13 | 6430-8035 | |
| 239 | 336 | 8-72076 | 9337-3707 | | 233 | 25 | 13-70 | 6483-9020 | 0 | 53 | 30-39 | 24-7716 | 232 | 31 | 43-30 | 6459-1304 | |
| 240 | 337 | 7-85692 | 9364-7486 | | 234 | 24 | 21-87 | 6511-2798 | 0 | 51 | 27-39 | 23-8225 | 233 | 32 | 54-48 | 6487-4574 | |
| 241 | 338 | 6-99308 | 9392-1264 | | 235 | 23 | 30-03 | 6538-6577 | 0 | 49 | 21-23 | 22-8490 | 234 | 34 | 8-81 | 6515-8087 | |
| 242 | 339 | 6-12924 | 9419-5043 | | 236 | 22 | 38-20 | 6566-0355 | 0 | 47 | 14-67 | 21-8725 | 235 | 35 | 23-53 | 6544-1030 | |
| 243 | 340 | 5-26540 | 9446-8821 | | 237 | 21 | 46-37 | 6593-4134 | 0 | 45 | 8-12 | 20-8960 | 236 | 36 | 38-25 | 6572-5174 | |
| 244 | 341 | 4-40156 | 9474-2600 | | 238 | 20 | 54-54 | 6620-7912 | 0 | 43 | 1-57 | 19-9195 | 237 | 37 | 52-97 | 6600-8717 | |
| 245 | 342 | 3-53772 | 9501-6378 | | 239 | 20 | 2-71 | 6648-1691 | 0 | 40 | 51-82 | 18-9184 | 238 | 39 | 10-89 | 6629-2507 | |
| 246 | 343 | 2-67388 | 9529-0157 | | 240 | 19 | 10-88 | 6675-5469 | 0 | 38 | 41-72 | 17-9145 | 239 | 40 | 29-16 | 6657-6324 | |
| 247 | 344 | 1-81004 | 9556-3935 | | 241 | 18 | 19-05 | 6702-9248 | 0 | 36 | 31-62 | 16-9107 | 240 | 41 | 47-43 | 6686-0141 | |
| 248 | 345 | 0-94620 | 9583-7714 | | 242 | 17 | 27-22 | 6730-3026 | 0 | 34 | 21-74 | 15-9085 | 241 | 43 | 5-48 | 6714-3942 | |
| 249 | 346 | 0-08236 | 9611-1492 | | 243 | 16 | 35-39 | 6757-6805 | 0 | 32 | 8-68 | 14-8818 | 242 | 44 | 26-71 | 6742-7987 | |
| 250 | 346 | 59-21852 | 9638-5271 | | 244 | 15 | 43-66 | 6785-0583 | 0 | 29 | 55-63 | 13-8551 | 243 | 45 | 47-94 | 6771-2032 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | |
|----------------|-----|----------|--------|-------|-----------|------|-------|---------|--------|-------|-----------|
| 251 | 347 | 58-35467 | 245 14 | 51-73 | 6812-4362 | 0 27 | 42-37 | 12-8285 | 244 47 | 9-16 | 6790-6077 |
| 252 | 348 | 57-49083 | 246 13 | 59-90 | 6839-8140 | 0 25 | 29-91 | 11-8049 | 245 48 | 29-90 | 6828-0092 |
| 253 | 349 | 56-63699 | 247 13 | 8-67 | 6867-1919 | 0 23 | 15-08 | 10-7645 | 246 49 | 52-99 | 6850-4274 |
| 254 | 350 | 55-79315 | 248 12 | 16-24 | 6894-5697 | 0 21 | 0-25 | 9-7242 | 247 51 | 15-99 | 6884-8456 |
| 255 | 351 | 54-89931 | 249 11 | 24-41 | 6921-9476 | 0 18 | 45-42 | 8-6838 | 248 52 | 38-99 | 6913-2638 |
| 256 | 352 | 54-03547 | 250 10 | 32-58 | 6949-3254 | 0 16 | 29-89 | 7-6303 | 249 54 | 3-09 | 6941-6951 |
| 257 | 353 | 53-17163 | 251 9 | 40-75 | 6976-7033 | 0 14 | 12-28 | 6-4763 | 250 55 | 28-47 | 6970-1270 |
| 258 | 354 | 52-30779 | 252 8 | 48-92 | 7004-0812 | 0 11 | 55-08 | 5-5222 | 251 56 | 53-24 | 6998-5589 |
| 259 | 355 | 51-44395 | 253 7 | 57-09 | 7031-4590 | 0 9 | 39-07 | 4-4682 | 252 58 | 18-01 | 7026-9908 |
| 260 | 356 | 50-58011 | 254 7 | 5-26 | 7058-8369 | 0 7 | 21-28 | 3-4049 | 253 59 | 43-98 | 7055-4319 |
| 261 | 357 | 49-71627 | 255 6 | 13-43 | 7086-2147 | 0 5 | 3-40 | 2-3418 | 255 1 | 9-93 | 7083-8729 |
| 262 | 358 | 48-85243 | 256 5 | 21-60 | 7113-6926 | 0 2 | 45-71 | 1-2786 | 256 2 | 35-89 | 7112-3140 |
| 263 | 359 | 47-98859 | 257 4 | 29-77 | 7140-9704 | 0 0 | 27-92 | 0-2154 | 257 4 | 1-85 | 7140-7550 |
| Sun in perigee | 360 | 0-0 | 257 16 | 30-45 | 7156-5313 | 0 0 | 0-0 | 0-0 | 257 16 | 30-45 | 7146-5313 |

(The Sun's equation of centre is +, plus, after his mean anomaly = 300° till it reaches 180°.)

| 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | | | | | | | | | | | | | | | | | | | | |
|----------|----------|-----|----------|-----------|----------|-----|----------|---------|----------|-----|----------|-----------|----------|-----|----------|-----|----------|-----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|----|----------|
| 0 | 47-12476 | 1 | 46-26090 | 2 | 45-39706 | 3 | 44-53322 | 4 | 43-66938 | 5 | 42-80554 | 6 | 41-94170 | 7 | 41-07786 | 8 | 40-21402 | 9 | 39-35018 | 10 | 38-48634 | 11 | 37-62250 | 12 | 36-78866 | 13 | 35-89482 | 14 | 35-09098 | 15 | 34-16713 | 16 | 33-36329 | 17 | 32-43945 | 18 | 31-57561 | 19 | 30-71177 |
| 21-8170 | 258 | 3 | 37-93 | 7168-3483 | 0 | 1 | 49-80 | 0-8472 | 258 | 5 | 27-74 | 7169-1955 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49-1949 | 259 | 2 | 46-10 | 7195-7261 | 0 | 4 | 7-59 | 1-9104 | 259 | 6 | 53-69 | 7197-6365 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76-5727 | 260 | 1 | 54-27 | 7223-1040 | 0 | 6 | 25-38 | 2-9736 | 260 | 8 | 19-65 | 7226-0775 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103-9506 | 261 | 1 | 2-44 | 7250-4818 | 0 | 8 | 43-16 | 4-0367 | 261 | 9 | 45-61 | 7254-5186 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 131-3284 | 262 | 0 | 10-61 | 7277-8597 | 0 | 10 | 59-71 | 5-0903 | 262 | 11 | 10-32 | 7282-9500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 158-7063 | 263 | 59 | 18-78 | 7305-2375 | 0 | 13 | 16-31 | 6-1444 | 263 | 12 | 35-10 | 7311-3819 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 186-0841 | 264 | 58 | 26-85 | 7332-6154 | 0 | 15 | 32-92 | 7-1984 | 264 | 13 | 59-87 | 7339-8138 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 213-4620 | 265 | 57 | 35-12 | 7359-9932 | 0 | 17 | 49-67 | 8-2536 | 265 | 15 | 24-79 | 7368-2468 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240-8398 | 266 | 56 | 43-29 | 7387-3711 | 0 | 20 | 4-56 | 9-2940 | 266 | 16 | 47-79 | 7396-6650 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 268-2177 | 267 | 55 | 51-46 | 7414-7489 | 0 | 22 | 19-33 | 10-3343 | 267 | 18 | 10-79 | 7425-0832 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 295-5955 | 268 | 54 | 59-63 | 7442-1268 | 0 | 24 | 34-16 | 11-3747 | 268 | 19 | 33-79 | 7453-5015 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 322-9734 | 269 | 54 | 7-80 | 7469-5046 | 0 | 26 | 49-29 | 12-4174 | 269 | 20 | 57-09 | 7481-9220 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 350-3512 | 270 | 53 | 15-97 | 7496-8825 | 0 | 29 | 2-35 | 13-4440 | 270 | 22 | 18-32 | 7510-3265 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 377-7291 | 271 | 52 | 24-14 | 7524-2603 | 0 | 31 | 15-40 | 14-4707 | 271 | 23 | 39-54 | 7538-7310 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 406-1069 | 272 | 51 | 32-31 | 7551-6382 | 0 | 33 | 28-46 | 15-4974 | 272 | 25 | 0-77 | 7567-1356 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 432-4848 | 273 | 50 | 40-48 | 7579-0160 | 0 | 35 | 39-03 | 16-5049 | 273 | 26 | 19-51 | 7595-5209 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 459-8626 | 274 | 49 | 48-65 | 7606-3939 | 0 | 37 | 49-13 | 17-5088 | 274 | 27 | 37-78 | 7623-9026 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 487-2405 | 275 | 48 | 56-82 | 7633-7717 | 0 | 39 | 59-23 | 18-5126 | 275 | 28 | 56-05 | 7652-2843 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 514-6183 | 276 | 48 | 4-99 | 7661-1496 | 0 | 42 | 9-33 | 19-5165 | 276 | 30 | 14-32 | 7680-6960 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 541-9962 | 277 | 47 | 13-16 | 7688-5274 | 0 | 44 | 43-43 | 20-4971 | 277 | 31 | 29-58 | 7709-0240 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(The Sun's equation of centre is +, plus, after his mean anomaly = 300° till it reaches 180°.)

Sun's equation of the centre.

+

TABLE XLVIII B—Contd.

| 24 hour periods from true Māhā-samkranti | Sun's mean anomaly (or mean sun's distance from perige- point) ($^{\circ}$). | | Sun's mean Longitude | | Sun's equation of the centre + | | Sun's true Longitude ($^{\circ}$ S'). | |
|---|---|-------------------------|----------------------|-------------------------|-----------------------------------|-------------------------|---|-------------------------|
| | | | | | | | | |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. | 0 | 10,000ths of circle. |
| 284 | 20 29-84793 | 569-3740 | 277 46 21-33 | 7715-9053 | 0 46 22-68 | 21-4736 | 278 32 44-30 | 7737-3789 |
| 285 | 21 28-98409 | 590-7519 | 278 45 29-50 | 7743-2831 | 0 48 29-53 | 22-4501 | 279 33 59-02 | 7765-7332 |
| 286 | 22 28-13025 | 624-1207 | 279 44 37-06 | 7770-6610 | 0 50 36-08 | 23-4265 | 280 35 13-74 | 7794-0875 |
| 287 | 23 27-25641 | 651-5076 | 280 43 45-83 | 7798-0388 | 0 52 39-48 | 24-3787 | 281 30 25-32 | 7822-4176 |
| 288 | 24 26-39257 | 678-8854 | 281 42 54-00 | 7825-4167 | 0 54 42-49 | 25-3278 | 282 39 36-49 | 7850-7445 |
| 289 | 25 25-52873 | 706-2633 | 282 42 9-17 | 7852-7945 | 0 56 45-49 | 26-2709 | 283 38 47-66 | 7879-0715 |
| 290 | 26 24-66489 | 733-6412 | 283 41 10-34 | 7880-1724 | 0 58 48-86 | 27-2288 | 284 39 59-20 | 7907-4012 |
| 291 | 27 23-80105 | 761-0190 | 284 40 18-51 | 7907-5503 | 1 0 48-31 | 28-1505 | 285 41 6-82 | 7935-7008 |
| 292 | 28 22-93721 | 788-3969 | 285 39 26-68 | 7934-9281 | 1 2 47-77 | 29-0723 | 286 42 14-45 | 7964-0004 |
| 293 | 29 22-07336 | 815-7747 | 286 38 34-85 | 7962-3060 | 1 4 47-22 | 29-9940 | 287 43 22-07 | 7992-2999 |
| 294 | 30 21-20952 | 843-1526 | 287 37 43-02 | 7989-6838 | 1 6 44-18 | 30-8965 | 288 44 27-21 | 8020-5803 |
| 295 | 31 20-34568 | 870-5304 | 288 36 51-19 | 8017-0617 | 1 8 38-32 | 31-7771 | 289 45 29-51 | 8048-8388 |
| 296 | 32 19-48184 | 897-9083 | 289 35 59-36 | 8044-4395 | 1 10 32-45 | 32-6578 | 290 46 31-81 | 8077-0973 |
| 297 | 33 18-61801 | 925-2861 | 290 35 7-53 | 8071-8174 | 1 12 26-58 | 33-5384 | 291 47 34-11 | 8105-3558 |
| 298 | 34 17-75416 | 952-6640 | 291 34 15-70 | 8099-1952 | 1 14 18-31 | 34-4005 | 292 48 34-01 | 8133-5958 |
| 299 | 35 16-89032 | 980-0418 | 292 33 23-87 | 8126-5731 | 1 16 7-71 | 35-2447 | 293 49 31-58 | 8161-8178 |
| 300 | 36 16-02648 | 1007-4197 | 293 32 32-04 | 8153-9509 | 1 17 57-12 | 36-0886 | 294 50 29-15 | 8190-0398 |
| 301 | 37 15-16264 | 1034-7975 | 294 31 40-21 | 8181-3288 | 1 19 46-52 | 36-9830 | 295 51 26-73 | 8218-2618 |
| 302 | 38 14-29880 | 1062-1754 | 295 30 48-38 | 8208-7066 | 1 21 30-40 | 37-7346 | 296 52 18-78 | 8246-4412 |
| 303 | 39 13-43496 | 1089-5532 | 296 29 56-55 | 8236-0845 | 1 23 13-89 | 38-5331 | 297 53 10-44 | 8274-6176 |
| 304 | 40 12-57112 | 1116-9311 | 297 29 4-72 | 8263-4623 | 1 24 57-38 | 39-3316 | 298 54 2-10 | 8302-7839 |
| 305 | 41 11-70728 | 1144-3089 | 298 28 12-89 | 8290-8402 | 1 26 40-87 | 40-1301 | 299 54 53-75 | 8330-9703 |
| 306 | 42 10-84343 | 1171-6868 | 299 27 21-06 | 8318-2180 | 1 28 18-76 | 40-8855 | 300 55 39-82 | 8358-1035 |
| 307 | 43 9-97959 | 1199-0646 | 300 26 29-23 | 8345-5959 | 1 29 56-34 | 41-6384 | 301 56 25-56 | 8387-2343 |
| 308 | 44 9-11575 | 1226-4425 | 301 25 37-40 | 8372-9737 | 1 31 33-91 | 42-3913 | 302 57 11-31 | 8415-3650 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | |
|-----|----|----------|-----|----|-------|-----------|---|----|-------|---------|-----|----|-------|-----------|
| 309 | 45 | 8-25191 | 302 | 24 | 45-56 | 8400-3516 | 1 | 33 | 9-54 | 43-1292 | 303 | 57 | 55-11 | 8443-4808 |
| 310 | 46 | 7-38807 | 303 | 23 | 53-73 | 8427-7294 | 1 | 34 | 40-61 | 43-8310 | 304 | 58 | 34-35 | 8471-5613 |
| 311 | 47 | 6-52423 | 304 | 23 | 1-90 | 8455-1073 | 1 | 36 | 11-48 | 44-5346 | 305 | 59 | 13-39 | 8490-6419 |
| 312 | 48 | 5-06039 | 305 | 22 | 10-07 | 8482-4851 | 1 | 37 | 42-75 | 45-2373 | 306 | 59 | 52-83 | 8527-7224 |
| 313 | 49 | 4-79655 | 306 | 21 | 18-24 | 8509-8630 | 1 | 39 | 12-00 | 45-9259 | 308 | 0 | 30-24 | 8555-7889 |
| 314 | 50 | 3-63271 | 307 | 20 | 26-41 | 8537-2408 | 1 | 40 | 36-56 | 46-5784 | 309 | 1 | 2-97 | 8583-8192 |
| 315 | 51 | 3-06887 | 308 | 19 | 34-58 | 8564-6187 | 1 | 42 | 1-13 | 47-2369 | 310 | 1 | 33-71 | 8611-8496 |
| 316 | 52 | 2-20503 | 309 | 18 | 42-75 | 8591-9905 | 1 | 43 | 25-69 | 47-8834 | 311 | 2 | 8-44 | 8639-8890 |
| 317 | 53 | 1-34118 | 310 | 17 | 50-02 | 8619-3744 | 1 | 44 | 46-01 | 48-5032 | 312 | 2 | 30-93 | 8667-8776 |
| 318 | 54 | 0-47735 | 311 | 16 | 59-09 | 8646-7522 | 1 | 46 | 3-48 | 49-1069 | 313 | 3 | 2-57 | 8695-8532 |
| 319 | 54 | 59-61351 | 312 | 16 | 7-26 | 8674-1301 | 1 | 47 | 20-95 | 49-6987 | 314 | 3 | 28-21 | 8723-8288 |
| 320 | 55 | 58-74965 | 313 | 15 | 15-43 | 8701-5079 | 1 | 48 | 38-42 | 50-2964 | 315 | 3 | 53-85 | 8751-8044 |
| 321 | 56 | 57-88582 | 314 | 14 | 23-60 | 8728-8858 | 1 | 49 | 49-52 | 50-8451 | 316 | 4 | 13-12 | 8779-7309 |
| 322 | 57 | 57-02198 | 315 | 13 | 13-77 | 8756-2936 | 1 | 50 | 59-30 | 51-3835 | 317 | 4 | 31-07 | 8807-6472 |
| 323 | 58 | 56-15814 | 316 | 12 | 39-94 | 8783-6415 | 1 | 52 | 9-08 | 51-9219 | 318 | 4 | 49-02 | 8835-5634 |
| 324 | 59 | 55-29430 | 317 | 11 | 48-11 | 8811-0104 | 1 | 53 | 18-80 | 52-4604 | 319 | 5 | 6-97 | 8862-4797 |
| 325 | 60 | 54-43046 | 318 | 10 | 56-28 | 8838-3972 | 1 | 54 | 22-51 | 52-9515 | 320 | 5 | 18-79 | 8891-3487 |
| 326 | 61 | 53-56062 | 319 | 10 | 4-45 | 8865-7751 | 1 | 55 | 24-60 | 53-4366 | 321 | 5 | 29-05 | 8919-2056 |
| 327 | 62 | 52-70278 | 320 | 9 | 12-02 | 8893-1529 | 1 | 56 | 26-70 | 53-9097 | 322 | 5 | 39-31 | 8947-0626 |
| 328 | 63 | 51-83894 | 321 | 8 | 20-79 | 8920-5308 | 1 | 57 | 28-00 | 54-3873 | 323 | 5 | 49-39 | 8974-9181 |
| 329 | 64 | 50-97510 | 322 | 7 | 28-90 | 8947-9080 | 1 | 58 | 23-01 | 54-8671 | 324 | 5 | 51-06 | 9002-7158 |
| 330 | 65 | 50-11126 | 323 | 6 | 37-13 | 8975-2865 | 1 | 59 | 17-41 | 55-2269 | 325 | 5 | 54-54 | 9030-5134 |
| 331 | 66 | 49-24742 | 324 | 5 | 45-30 | 9002-6643 | 2 | 0 | 11-82 | 55-6467 | 326 | 5 | 57-11 | 9058-3110 |
| 332 | 67 | 48-38358 | 325 | 4 | 53-46 | 9030-0422 | 2 | 1 | 4-24 | 56-0512 | 327 | 5 | 57-70 | 9086-0934 |
| 333 | 68 | 47-51974 | 326 | 4 | 1-03 | 9057-4200 | 2 | 1 | 50-36 | 56-4071 | 328 | 5 | 52-00 | 9113-8272 |
| 334 | 69 | 46-65589 | 327 | 3 | 9-80 | 9084-7979 | 2 | 2 | 36-49 | 56-7630 | 329 | 5 | 46-29 | 9141-5600 |
| 335 | 70 | 45-79205 | 328 | 2 | 17-07 | 9112-1757 | 2 | 3 | 22-62 | 57-1190 | 330 | 5 | 40-59 | 9169-2947 |
| 336 | 71 | 44-92821 | 329 | 1 | 26-14 | 9139-5536 | 2 | 4 | 5-17 | 57-4473 | 331 | 5 | 31-32 | 9197-0006 |
| 337 | 72 | 44-06437 | 330 | 0 | 34-31 | 9166-9314 | 2 | 4 | 43-02 | 57-7394 | 332 | 5 | 17-73 | 9224-6708 |
| 338 | 73 | 43-20653 | 331 | 59 | 42-48 | 9194-3093 | 2 | 5 | 20-87 | 58-0314 | 333 | 5 | 3-35 | 9252-3407 |
| 339 | 74 | 42-33659 | 332 | 58 | 50-65 | 9221-6871 | 2 | 5 | 58-72 | 58-3234 | 334 | 4 | 49-37 | 9280-0105 |
| 340 | 75 | 41-47285 | 333 | 57 | 58-82 | 9249-0650 | 2 | 6 | 31-51 | 58-5705 | 335 | 4 | 30-34 | 9307-6415 |
| 341 | 76 | 40-60901 | 334 | 56 | 6-99 | 9276-4428 | 2 | 7 | 1-08 | 58-8047 | 336 | 4 | 8-07 | 9335-2475 |
| 342 | 77 | 39-74517 | 335 | 55 | 15-16 | 9303-8207 | 2 | 7 | 30-65 | 59-0328 | 337 | 3 | 45-81 | 9362-8535 |
| 343 | 78 | 38-88133 | 336 | 55 | 23-33 | 9331-1985 | 2 | 8 | 0-22 | 59-2610 | 338 | 3 | 23-55 | 9390-4595 |

TABLE XLVIII B—Contd.

Present Sūrya-Siddhānta.

| 24-hour periods from true Mēsha-samkrānti. | Sun's mean anomaly (or mean sun's distance from perige- point) ("C"). | | | | Sun's mean Longitude. | | | | Sun's equation of the centre. + | | | | Sun's true Longitude ("S"). | | | |
|---|--|----------|-----------|-------------------------|-----------------------|-------|-----------|---|------------------------------------|-------|---------|-----|--------------------------------|-------------------------|-----------|--|
| | 2 | | 3 | 10,000ths of circle. | 4 | | 5 | 6 | | 7 | 8 | | 9 | 10,000ths of circle. | | |
| | ° | ' | ° | | ' | ° | ' | ° | ' | ° | ' | ° | ' | | | |
| 344 | 79 | 38-01749 | 2212-0451 | 336 | 54 | 31-50 | 9358-5704 | 2 | 8 | 23-88 | 59-4435 | 339 | 2 | 55-38 | 9418-0199 | |
| 345 | 80 | 37-16363 | 2239-4230 | 337 | 53 | 39-07 | 9385-9542 | 2 | 8 | 45-76 | 59-6123 | 340 | 2 | 25-43 | 9445-5666 | |
| 346 | 81 | 36-28081 | 2266-8008 | 338 | 52 | 47-84 | 9413-3321 | 2 | 9 | 7-64 | 59-7812 | 341 | 1 | 55-48 | 9473-1133 | |
| 347 | 82 | 35-42597 | 2294-1787 | 339 | 51 | 56-01 | 9440-7090 | 2 | 9 | 27-74 | 59-9362 | 342 | 1 | 23-74 | 9500-6462 | |
| 348 | 83 | 34-56212 | 2321-5565 | 340 | 51 | 4-18 | 9468-0878 | 2 | 9 | 40-75 | 60-0360 | 343 | 0 | 44-92 | 9528-1244 | |
| 349 | 84 | 33-69828 | 2348-9344 | 341 | 50 | 12-25 | 9495-4656 | 2 | 9 | 53-76 | 60-1370 | 344 | 0 | 6-10 | 9555-6020 | |
| 350 | 85 | 32-83444 | 2376-3122 | 342 | 49 | 20-52 | 9522-8435 | 2 | 10 | 6-77 | 60-2374 | 344 | 59 | 27-28 | 9583-0809 | |
| 351 | 86 | 31-97060 | 2403-6901 | 343 | 48 | 28-69 | 9550-2213 | 2 | 10 | 16-64 | 60-3136 | 345 | 58 | 45-33 | 9610-5349 | |
| 352 | 87 | 31-10676 | 2431-0679 | 344 | 47 | 36-86 | 9577-5992 | 2 | 10 | 30-77 | 60-3455 | 346 | 57 | 57-03 | 9637-9447 | |
| 353 | 88 | 30-24292 | 2458-4458 | 345 | 46 | 45-03 | 9604-9770 | 2 | 10 | 24-91 | 60-3774 | 347 | 57 | 9-04 | 9665-3544 | |
| 354 | 89 | 29-37908 | 2485-8236 | 346 | 45 | 53-19 | 9632-3549 | 2 | 10 | 29-05 | 60-4093 | 348 | 56 | 22-24 | 9692-7642 | |
| 355 | 90 | 28-51524 | 2513-2015 | 347 | 45 | 1-36 | 9659-7327 | 2 | 10 | 29-00 | 60-4690 | 349 | 55 | 30-37 | 9720-1417 | |
| 356 | 91 | 27-65140 | 2540-5794 | 348 | 44 | 9-53 | 9687-1106 | 2 | 10 | 24-86 | 60-3770 | 350 | 54 | 34-40 | 9747-4876 | |
| 357 | 92 | 26-78756 | 2567-9572 | 349 | 43 | 17-70 | 9714-4885 | 2 | 10 | 20-72 | 60-3451 | 351 | 53 | 38-43 | 9774-8330 | |
| 358 | 93 | 25-92372 | 2595-3351 | 350 | 42 | 25-87 | 9741-8663 | 2 | 10 | 16-59 | 60-3132 | 352 | 52 | 42-46 | 9802-1795 | |
| 359 | 94 | 25-05988 | 2622-7129 | 351 | 41 | 34-04 | 9769-2442 | 2 | 10 | 6-63 | 60-2363 | 353 | 51 | 40-67 | 9829-4805 | |
| 360 | 95 | 24-19604 | 2650-0908 | 352 | 40 | 42-21 | 9796-6220 | 2 | 9 | 53-02 | 60-1360 | 354 | 50 | 35-83 | 9856-7580 | |
| 361 | 96 | 23-33216 | 2677-4686 | 353 | 39 | 50-38 | 9823-9999 | 2 | 9 | 40-61 | 60-0356 | 355 | 49 | 30-99 | 9884-0354 | |
| 362 | 97 | 22-46835 | 2704-8465 | 354 | 38 | 58-55 | 9851-3777 | 2 | 9 | 27-60 | 59-9352 | 356 | 48 | 26-15 | 9911-3129 | |
| 363 | 98 | 21-60451 | 2732-2243 | 355 | 38 | 6-72 | 9879-7556 | 2 | 9 | 7-45 | 59-7797 | 357 | 47 | 14-17 | 9938-0353 | |
| 364 | 99 | 20-74067 | 2759-6022 | 356 | 37 | 14-89 | 9906-1334 | 2 | 8 | 45-57 | 59-6109 | 358 | 46 | 6-46 | 9965-7443 | |
| 365 | 100 | 19-87683 | 2786-9800 | 357 | 36 | 23-06 | 9933-5113 | 2 | 8 | 23-69 | 59-4420 | 359 | 44 | 46-75 | 9992-9533 | |

TABLE XLIX.

ELEMENTS OF THE SUN'S TRUE LONGITUDE.

HOURS.

N.B.—Column 1 corresponds to the 24-hour periods, measured from true Mēsha-saṁkrānti, entered in Column 1 Tables XLVIII A and B. In the present Table they are grouped in conformity with the Hindu Sine-Table. Figures in Columns 4 to 6 give the actual area travelled on the ecliptic by the true sun in the given number of hours. For minutes see Table L, following. The Table is exact for the FIRST ĀRYA-SIDDHĀNTA, but can be used for all the Hindu authorities.

Grouping of the days.

(a) Days 1 to 85 in order, and in reverse order days 86 to 164.

(b) Days 165 to 267 in order, and in reverse order days 268 to 363.

(c) Days 363 to 365 are grouped with Day 1.

This arrangement had to be adopted to prevent the size of the Table being doubled.

| 24-hour periods from true Mēsha-saṁkrānti (inclusive). | Arc travelled by true sun in 24 hours. | | Arc travelled by true sun per hour. | | | | | |
|--|--|----------------------|-------------------------------------|----------|----------------------|---------------|----------|----------------------|
| | ° ' " | 10,000ths of circle. | No. of Hours. | ' " | 10,000ths of circle. | No. of hours. | ' " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 |
| 363 to 1 } 162 to 164 } | 0 58 46.29 | 27.2090 | 1 | 2 26.93 | 1.1337 | 13 | 31 50.07 | 14.7382 |
| | | | 2 | 4 53.86 | 2.2674 | 14 | 34 17.00 | 15.8719 |
| | | | 3 | 7 20.79 | 3.4011 | 15 | 36 43.93 | 17.0056 |
| | | | 4 | 9 47.71 | 4.5348 | 16 | 39 10.86 | 18.1394 |
| | | | 5 | 12 14.64 | 5.6685 | 17 | 41 37.79 | 19.2731 |
| | | | 6 | 14 41.57 | 6.8023 | 18 | 44 4.72 | 20.4068 |
| | | | 7 | 17 8.50 | 7.9360 | 19 | 46 31.65 | 21.5405 |
| | | | 8 | 19 35.43 | 9.0697 | 20 | 48 58.57 | 22.6743 |
| | | | 9 | 22 2.36 | 10.2034 | 21 | 51 25.50 | 23.8079 |
| | | | 10 | 24 29.29 | 11.3371 | 22 | 53 52.43 | 24.9416 |
| | | | 11 | 26 56.22 | 12.4708 | 23 | 56 19.36 | 26.0753 |
| | | | 12 | 29 23.14 | 13.6045 | | | |
| 2 to 5 } 158 to 161 } | 0 58 38.01 | 27.1451 | 1 | 2 26.58 | 1.1310 | 13 | 31 45.59 | 14.7036 |
| | | | 2 | 4 53.17 | 2.2621 | 14 | 34 12.17 | 15.8347 |
| | | | 3 | 7 19.75 | 3.3931 | 15 | 36 38.76 | 16.9657 |
| | | | 4 | 9 46.34 | 4.5242 | 16 | 39 5.34 | 18.0968 |
| | | | 5 | 12 12.92 | 5.6552 | 17 | 41 31.92 | 19.2278 |
| | | | 6 | 14 39.50 | 6.7863 | 18 | 43 58.51 | 20.3589 |
| | | | 7 | 17 6.09 | 7.9173 | 19 | 46 25.09 | 21.4899 |
| | | | 8 | 19 32.67 | 9.0484 | 20 | 48 51.68 | 22.6210 |
| | | | 9 | 21 59.25 | 10.1794 | 21 | 51 18.26 | 23.7520 |
| | | | 10 | 24 25.84 | 11.3105 | 22 | 53 44.82 | 24.8831 |
| | | | 11 | 26 52.42 | 12.4415 | 23 | 56 11.43 | 26.0141 |
| | | | 12 | 29 19.01 | 13.5726 | | | |

TABLE XLIX—*Contd.*

| 24-hour periods from true Māsha- sankranti (inclusive). | Arc travelled by true sun in 24 hours. | | Arc travelled by true sun per hour. | | | | | |
|--|---|-------------------------|--|--|--|---|---|-------------------------|
| | ° ' " | 10,000ths of circle. | No. of Hours. | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 |
| 6 to 8 } 154 to 157 } | 0 58 29.73 | 27.0813 | 1 2 26.24 2 4 52.48 3 7 18.72 4 9 44.96 5 12 11.19 6 14 37.43 7 17 3.67 8 19 29.91 9 21 56.15 10 24 22.39 11 26 48.63 12 29 14.87 | 1-1284 2-2568 3-3852 4-5135 5-6419 6-7703 7-8987 8-9271 9-1555 10-2839 11-4122 12-5406 | 13 14 15 16 17 18 19 20 21 22 23 | 31 41.10 34 7.34 36 33.58 38 59.82 41 26.06 43 52.30 46 18.54 48 44.78 51 11.02 53 37.25 56 3.49 | 14 6690 15 7974 16 9258 18 0542 19 1826 20 3109 21 4393 22 5677 23 6961 24 8245 25 9529 | |
| 9 to 12 } 150 to 153 } | 0 58 21.45 | 27.0174 | 1 2 25.89 2 4 51.79 3 7 17.68 4 9 43.58 5 12 9.47 6 14 35.36 7 17 1.26 8 19 27.15 9 21 53.04 10 24 18.94 11 26 44.83 12 29 10.73 | 1-1257 2-2514 3-3772 4-5029 5-6286 6-7543 7-8801 8-9058 9-1315 10-2572 11-3830 12-5087 | 13 14 15 16 17 18 19 20 21 22 23 | 31 36.62 34 2.51 36 28.41 38 54.30 41 20.20 43 46.09 46 11.98 48 37.88 51 3.77 53 29.66 55 55.56 | 14 6344 15 7601 16 8859 18 0116 19 1373 20 2630 21 3888 22 5145 23 6402 24 7659 25 8917 | |
| 13 to 16 } 147 to 149 } | 0 58 15.17 | 26.9535 | 1 2 25.55 2 4 51.10 3 7 16.65 4 9 42.20 5 12 7.74 6 14 33.29 7 16 58.84 8 19 24.39 9 21 49.94 10 24 15.49 11 26 41.04 12 29 6.59 | 1-1231 2-2461 3-3692 4-4923 5-6153 6-7384 7-8614 8-9845 9-1076 10-2306 11-3537 12-4768 | 13 14 15 16 17 18 19 20 21 22 23 | 31 32.14 33 57.68 36 23.23 38 48.78 41 14.33 43 39.88 46 5.43 48 30.98 50 56.53 53 22.08 55 47.62 | 14 5998 15 7229 16 8459 17 9690 19 0921 20 2351 21 3382 22 4613 23 5843 24 7074 25 8304 | |
| 17 to 20 } 143 to 146 } | 0 58 5.49 | 26.8942 | 1 2 25.23 2 4 50.46 3 7 15.69 4 9 40.91 5 12 6.14 6 14 31.37 7 16 56.60 8 19 21.83 9 21 47.06 10 24 12.29 11 26 37.51 12 29 2.74 | 1-1206 2-2412 3-3618 4-4824 5-6030 6-7235 7-8441 8-9647 9-10853 10-2059 11-3265 12-4471 | 13 14 15 16 17 18 19 20 21 22 23 | 31 27.97 33 53.20 36 18.43 38 43.66 41 8.89 43 34.11 45 59.34 48 24.57 50 49.80 53 15.03 55 40.26 | 14 5677 15 6883 16 8089 17 9295 19 0500 20 1706 21 2912 22 4118 23 5324 24 6530 26 7736 | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēṣa-samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | |
|---|--|----------------------|---|--|--|--|---|----------------------|--|
| | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | |
| 21 to 24 } 139 to 142 } | 0 57 57.80 | 26.8349 | 1 2 24.91 2 4 49.82 3 7 14.72 4 9 39.63 5 12 4.54 6 14 29.45 7 16 54.36 8 19 19.27 9 21 44.17 10 24 6.08 11 26 33.99 12 28 58.90 | 1.1181 2.2362 3.3544 4.4725 5.5906 6.7087 7.8268 8.9450 10.0631 11.1812 12.2993 13.4174 | 13 14 15 16 17 18 19 20 21 22 23 | 31 23.81 33 48.72 36 13.62 38 38.53 41 3.44 43 28.35 45 53.26 48 18.17 50 43.07 53 7.98 55 32.89 | 14.5356 15.6537 16.7718 17.8899 19.0080 20.1261 21.2443 22.3624 23.4805 24.5986 25.7167 | | |
| 25 to 28 } 135 to 138 } | 0 57 50.70 | 26.7801 | 1 2 24.61 2 4 49.23 3 7 13.84 4 9 38.45 5 12 3.06 6 14 27.68 7 16 52.29 8 19 16.90 9 21 41.51 10 24 6.13 11 26 30.74 12 28 55.35 | 1.1158 2.2317 3.3475 4.4634 5.5792 6.6950 7.8109 8.9267 10.0425 11.1484 12.2742 13.3901 | 13 14 15 16 17 18 19 20 21 22 23 | 31 19.96 33 44.58 36 9.19 38 33.80 40 58.41 43 23.03 45 47.64 48 12.25 50 36.86 53 1.48 55 26.09 | 14.5059 15.6217 16.7376 17.8534 18.9693 20.0851 21.2009 22.3168 23.4326 24.5485 25.6643 | | |
| 29 to 31 } 131 to 134 } | 0 57 43.60 | 26.7254 | 1 2 24.32 2 4 48.63 3 7 12.95 4 9 37.27 5 12 1.58 6 14 25.90 7 16 50.22 8 19 14.53 9 21 38.85 10 24 3.17 11 26 27.48 12 28 51.80 | 1.1136 2.2271 3.3407 4.4542 5.5678 6.6813 7.7949 8.9085 10.0220 11.1356 12.2491 13.3627 | 13 14 15 16 17 18 19 20 21 22 23 | 31 16.11 33 40.43 36 4.75 38 29.06 40 53.38 43 17.70 45 42.01 48 6.33 50 30.65 53 1.48 55 19.28 | 14.4762 15.5898 16.7033 17.8169 18.9305 20.0440 21.1576 22.2711 23.3847 24.4982 25.6118 | | |
| 32 to 35 } 127 to 130 } | 0 57 37.10 | 26.6752 | 1 2 24.05 2 4 48.09 3 7 12.14 4 9 36.18 5 12 0.23 6 14 24.28 7 16 48.32 8 19 12.37 9 21 36.41 10 24 0.46 11 26 24.50 12 28 48.55 | 1.1115 2.2229 3.3344 4.4459 5.5573 6.6688 7.7803 8.8917 10.0032 11.1147 12.2261 13.3376 | 13 14 15 16 17 18 19 20 21 22 23 | 31 12.60 33 36.64 36 0.69 38 24.73 40 48.78 43 12.83 45 36.87 48 0.92 50 24.96 52 49.01 55 13.05 | 14.4490 15.5605 16.6720 17.7834 18.8945 20.0064 21.1176 22.2293 23.3402 24.4522 25.5637 | | |

TABLE XLIX—Contd.

| 24 hour periods from true Mēsha-samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | Are travelled by true sun per hour. | | | | | |
|--|--|----------------------|---|--|---|--|--|---|
| | ° ' " | 10,000ths of circle. | No. of hours. | ' " | 10,000ths of circle. | No. of hours. | ' " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 |
| 36 to 39 } 124 to 126 } | 0 57 31.19 | 26.6295 | 1 2 23.80 2 4 47.60 3 7 11.40 4 9 35.20 5 11 59.00 6 14 22.80 7 16 46.60 8 19 10.40 9 21 34.20 10 23 57.99 11 26 21.79 12 28 45.59 | 2 23.80 4 47.60 7 11.40 9 35.20 11 59.00 14 22.80 16 46.60 19 10.40 21 34.20 23 57.99 26 21.79 28 45.59 | 1.1096 2.2191 3.3287 4.4383 5.5478 6.6574 7.7669 8.8765 9.9861 11.0956 12.2052 13.3148 | 13 14 15 16 17 18 19 20 21 22 23 | 31 9.39 33 33.19 35 56.99 38 20.79 40 44.59 43 8.39 45 32.19 47 55.99 50 19.79 52 43.59 55 7.39 | 14.4243 15.5339 16.6435 17.7530 18.8626 19.9721 21.0817 22.1913 23.3008 24.4104 25.5200 |
| 40 to 43 } 120 to 123 } | 0 57 25.27 | 26.5839 | 1 2 23.55 2 4 47.11 3 7 10.66 4 9 34.21 5 11 57.77 6 14 21.32 7 16 44.87 8 19 8.42 9 21 31.98 10 23 55.53 11 26 19.08 12 28 42.64 | 2 23.55 4 47.11 7 10.66 9 34.21 11 57.77 14 21.32 16 44.87 19 8.42 21 31.98 23 55.53 26 19.08 28 42.64 | 1.1077 2.2153 3.3250 4.4306 5.5383 6.6460 7.7536 8.8613 9.9690 11.0766 12.1843 13.2919 | 13 14 15 16 17 18 19 20 21 22 23 | 31 6.19 33 29.74 35 53.50 38 16.85 40 40.40 43 3.96 45 27.51 47 51.06 50 14.61 52 38.17 55 1.72 | 14.3996 15.5073 16.6149 17.7226 18.8303 19.9379 21.0456 22.1532 23.2609 24.3686 25.4762 |
| 44 to 47 } 116 to 119 } | 0 57 19.95 | 26.5428 | 1 2 23.33 2 4 46.66 3 7 9.99 4 9 33.33 5 11 56.66 6 14 19.99 7 16 43.32 8 19 6.66 9 21 29.98 10 23 53.31 11 26 16.64 12 28 39.98 | 2 23.33 4 46.66 7 9.99 9 33.33 11 56.66 14 19.99 16 43.32 19 6.66 21 29.98 23 53.31 26 16.64 28 39.98 | 1.1060 2.2119 3.3179 4.4238 5.5298 6.6457 7.7417 8.8476 9.9536 11.0595 12.1655 13.2714 | 13 14 15 16 17 18 19 20 21 22 23 | 31 3.31 33 26.64 35 49.97 38 13.30 40 36.63 42 59.96 45 23.29 47 46.63 50 9.96 52 33.29 54 56.62 | 14.3774 15.4833 16.5893 17.6952 18.8012 19.9071 21.0131 22.1190 23.2250 24.3309 25.4369 |
| 48 to 50 } 112 to 115 } | 0 57 15.22 | 26.5063 | 1 2 23.13 2 4 46.27 3 7 9.40 4 9 32.54 5 11 55.67 6 14 18.81 7 16 41.94 8 19 5.07 9 21 28.21 10 23 51.34 11 26 14.48 12 28 37.61 | 2 23.13 4 46.27 7 9.40 9 32.54 11 55.67 14 18.81 16 41.94 19 5.07 21 28.21 23 51.34 26 14.48 28 37.61 | 1.1044 2.2089 3.3133 4.4177 5.5222 6.6266 7.7310 8.8354 9.9399 11.0443 12.1487 13.2532 | 13 14 15 16 17 18 19 20 21 22 23 | 31 0.74 33 23.88 35 47.01 38 10.15 40 33.28 42 56.42 45 19.55 47 42.68 50 5.82 52 28.95 54 52.09 | 14.3576 15.4620 16.5665 17.6709 18.7753 19.8797 20.9842 22.0886 23.1930 24.2975 25.4019 |

TABLE XLIX—Contd.

| 24-hour periods from true Mōsha-samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | |
|--|--|----------------------|---|---|--|---|---|----------------------|--|
| | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | |
| 51 to 54 } 108 to 111 } | 0 57 10.49 | 26.4098 | 1 2 22.94 2 4 45.87 3 7 8.81 4 9 31.75 5 11 54.69 6 14 17.62 7 16 40.56 8 19 3.50 9 21 26.43 10 23 49.37 11 26 12.31 12 28 35.24 | 1.1029 2.2058 3.3087 4.4116 5.5145 6.6175 7.7204 8.8233 9.9262 11.0291 12.1320 13.2349 | 13 14 15 16 17 18 19 20 21 22 23 | 30 58.18 33 21.12 35 44.06 38 6.99 40 29.93 42 52.87 45 15.80 47 38.74 50 1.68 52 24.62 54 47.55 | 14.3378 15.4407 16.5436 17.6466 18.7495 19.8524 20.9553 22.0582 23.1611 24.2640 25.3669 | | |
| 55 to 58 } 105 to 107 } | 0 57 0.94 | 26.4424 | 1 2 22.79 2 4 45.58 3 7 8.37 4 9 31.16 5 11 53.95 6 14 16.74 7 16 39.52 8 19 2.31 9 21 25.10 10 23 47.89 11 26 10.68 12 28 33.47 | 1.1018 2.2035 3.3053 4.4071 5.5088 6.6106 7.7124 8.8141 9.9159 11.0177 12.1195 13.2212 | 13 14 15 16 17 18 19 20 21 22 23 | 30 56.26 33 19.05 35 41.84 38 4.63 40 27.42 42 50.21 45 13.00 47 35.78 49 58.57 52 21.36 54 44.15 | 14.3230 15.4248 16.5265 17.6283 18.7301 19.8318 20.9336 22.0354 23.1371 24.2389 25.3407 | | |
| 59 to 62 } 101 to 104 } | 0 57 3.98 | 26.4196 | 1 2 22.67 2 4 45.33 3 7 8.00 4 9 30.68 5 11 53.33 6 14 16.00 7 16 38.66 8 19 1.33 9 21 23.99 10 23 46.66 11 26 9.33 12 28 31.99 | 1.1008 2.2016 3.3025 4.4033 5.5041 6.6049 7.7057 8.8065 9.9074 11.0082 12.1090 13.2098 | 13 14 15 16 17 18 19 20 21 22 23 | 30 54.66 33 17.32 35 39.99 38 2.66 40 25.32 42 47.99 45 10.65 47 33.32 49 55.99 52 18.65 54 41.32 | 14.3106 15.4115 16.5123 17.6131 18.7139 19.8147 20.9155 22.0164 23.1172 24.2180 25.3188 | | |
| 63 to 66 } 97 to 100 } | 0 57 1.03 | 26.3968 | 1 2 22.54 2 4 45.09 3 7 7.63 4 9 30.17 5 11 52.71 6 14 15.26 7 16 37.80 8 19 0.34 9 21 22.89 10 23 45.43 11 26 7.07 12 28 30.51 | 1.0999 2.1997 3.2996 4.3995 5.4993 6.5992 7.6991 8.7989 9.8988 10.9987 12.0985 13.1984 | 13 14 15 16 17 18 19 20 21 22 23 | 30 53.06 33 15.60 35 38.14 38 0.69 40 23.23 42 45.77 45 8.31 47 30.86 49 53.40 52 15.94 54 38.48 | 14.2983 15.3981 16.4980 17.5979 18.6977 19.7976 20.8975 21.9973 23.0972 24.1971 25.2970 | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha-sankrānti (inclusive). | Arc travelled by true sun in 24 hours. | | | Arc travelled by true sun per hour. | | | | | | | | |
|--|--|----|-------|-------------------------------------|---------------|----|-------|----------------------|---------------|----|-------|----------------------|
| | ° | ' | " | 10,000ths of circle. | No. of hours. | ' | " | 10,000ths of circle. | No. of hours. | ' | " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | 4 | 5 | 6 | |
| 67 to 69 } 93 to 96 } | 0 | 56 | 58-66 | 26-3786 | 1 | 2 | 22-44 | 1-0991 | 13 | 30 | 51-78 | 14-2884 |
| | | | | | 2 | 4 | 44-89 | 2-1982 | 14 | 33 | 14-22 | 15-3875 |
| | | | | | 3 | 7 | 7-33 | 3-2973 | 15 | 35 | 6-66 | 16-4866 |
| | | | | | 4 | 9 | 29-78 | 4-3964 | 16 | 37 | 59-11 | 17-5857 |
| | | | | | 5 | 11 | 52-22 | 5-4955 | 17 | 40 | 21-55 | 18-6848 |
| | | | | | 6 | 14 | 14-67 | 6-5946 | 18 | 42 | 44-00 | 19-7839 |
| | | | | | 7 | 16 | 37-11 | 7-6937 | 19 | 45 | 6-44 | 20-8830 |
| | | | | | 8 | 18 | 59-55 | 8-7929 | 20 | 47 | 28-89 | 21-9821 |
| | | | | | 9 | 21 | 22-00 | 9-8920 | 21 | 49 | 51-33 | 23-0812 |
| | | | | | 10 | 23 | 44-44 | 10-9911 | 22 | 52 | 13-77 | 24-1804 |
| | | | | | 11 | 26 | 6-89 | 12-0902 | 23 | 54 | 36-22 | 25-2795 |
| | | | | | 12 | 28 | 29-33 | 13-1893 | | | | |
| 70 to 73 } 89 to 92 } | 0 | 56 | 56-89 | 26-3649 | 1 | 2 | 22-37 | 1-0985 | 13 | 30 | 50-81 | 14-2810 |
| | | | | | 2 | 4 | 44-74 | 2-1971 | 14 | 33 | 13-18 | 15-3795 |
| | | | | | 3 | 7 | 7-11 | 3-2956 | 15 | 35 | 35-55 | 16-4780 |
| | | | | | 4 | 9 | 29-48 | 4-3941 | 16 | 37 | 57-93 | 17-5766 |
| | | | | | 5 | 11 | 51-85 | 5-4927 | 17 | 40 | 20-30 | 18-6751 |
| | | | | | 6 | 14 | 14-22 | 6-5912 | 18 | 42 | 42-67 | 19-7737 |
| | | | | | 7 | 16 | 36-59 | 7-6898 | 19 | 45 | 5-04 | 20-8722 |
| | | | | | 8 | 18 | 58-06 | 8-7883 | 20 | 47 | 27-41 | 21-9707 |
| | | | | | 9 | 21 | 21-33 | 9-8868 | 21 | 49 | 49-78 | 23-0693 |
| | | | | | 10 | 23 | 43-70 | 10-9854 | 22 | 52 | 12-15 | 24-1678 |
| | | | | | 11 | 26 | 6-07 | 12-0839 | 23 | 54 | 34-52 | 25-2663 |
| | | | | | 12 | 28 | 28-44 | 13-1824 | | | | |
| 74 to 77 } 85 to 88 } | 0 | 56 | 55-71 | 26-3558 | 1 | 2 | 22-32 | 1-0982 | 13 | 30 | 50-17 | 14-2760 |
| | | | | | 2 | 4 | 44-64 | 2-1963 | 14 | 33 | 12-49 | 15-3742 |
| | | | | | 3 | 7 | 6-96 | 3-2945 | 15 | 35 | 34-82 | 16-4723 |
| | | | | | 4 | 9 | 29-28 | 4-3926 | 16 | 37 | 57-14 | 17-5705 |
| | | | | | 5 | 11 | 51-61 | 5-4908 | 17 | 40 | 19-46 | 18-6687 |
| | | | | | 6 | 14 | 13-93 | 6-5889 | 18 | 42 | 41-78 | 19-7668 |
| | | | | | 7 | 16 | 36-25 | 7-6871 | 19 | 45 | 4-10 | 20-8650 |
| | | | | | 8 | 18 | 58-57 | 8-7853 | 20 | 47 | 26-42 | 21-9631 |
| | | | | | 9 | 21 | 20-89 | 9-8834 | 21 | 49 | 48-74 | 23-0613 |
| | | | | | 10 | 23 | 43-21 | 10-9816 | 22 | 52 | 11-06 | 24-1594 |
| | | | | | 11 | 26 | 5-53 | 12-0797 | 23 | 54 | 33-38 | 25-2576 |
| | | | | | 12 | 28 | 27-85 | 13-1779 | | | | |
| (78 to 85 } True sun in apogee on Day 31). | 0 | 56 | 55-11 | 26-3512 | 1 | 2 | 22-30 | 1-0980 | 13 | 30 | 49-85 | 14-2738 |
| | | | | | 2 | 4 | 44-59 | 2-1959 | 14 | 33 | 12-15 | 15-3715 |
| | | | | | 3 | 7 | 6-89 | 3-2939 | 15 | 35 | 34-45 | 16-4695 |
| | | | | | 4 | 9 | 29-19 | 4-3919 | 16 | 37 | 56-74 | 17-5675 |
| | | | | | 5 | 11 | 51-48 | 5-4898 | 17 | 40 | 19-04 | 18-6654 |
| | | | | | 6 | 14 | 13-78 | 6-5878 | 18 | 42 | 41-34 | 19-7634 |
| | | | | | 7 | 16 | 36-07 | 7-6858 | 19 | 45 | 3-63 | 20-8614 |
| | | | | | 8 | 18 | 58-37 | 8-7837 | 20 | 47 | 29-93 | 21-9593 |
| | | | | | 9 | 21 | 20-07 | 9-8817 | 21 | 49 | 48-22 | 23-0573 |
| | | | | | 10 | 23 | 42-96 | 10-9797 | 22 | 52 | 10-52 | 24-1553 |
| | | | | | 11 | 26 | 5-26 | 12-0776 | 23 | 54 | 32-81 | 25-2532 |
| | | | | | 12 | 28 | 27-56 | 13-1756 | | | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha-samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | | | | |
|---|--|----|-------|-------------------------------------|---------------|----|-------|----------------------|---------------|----|-------|----------------------|
| | ° | ' | " | 10,000ths of circle | No. of hours. | ' | " | 10,000ths of circle. | No. of hours. | ' | " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | 4 | 5 | 6 | |
| For all days (Column 1) from 85 to 164 see above, taking the numbers of days backwards. | | | | | | | | | | | | |
| 165 to 168 } 360 to 362 } | 0 | 58 | 55-16 | 27-2775 | 1 | 2 | 27-30 | 1-1366 | 13 | 31 | 54-88 | 14-7753 |
| | | | | | 2 | 4 | 54-60 | 2-2731 | 14 | 34 | 22-18 | 15-9119 |
| | | | | | 3 | 7 | 21-00 | 3-4097 | 15 | 36 | 49-48 | 17-0484 |
| | | | | | 4 | 9 | 49-19 | 4-5462 | 16 | 39 | 16-77 | 18-1850 |
| | | | | | 5 | 12 | 16-49 | 5-6828 | 17 | 41 | 44-07 | 19-3215 |
| | | | | | 6 | 14 | 43-79 | 6-8914 | 18 | 44 | 11-37 | 20-4581 |
| | | | | | 7 | 17 | 11-00 | 7-9659 | 19 | 46 | 38-67 | 21-5947 |
| | | | | | 8 | 19 | 38-39 | 9-0925 | 20 | 49 | 5-97 | 22-7312 |
| | | | | | 9 | 22 | 5-69 | 10-2291 | 21 | 51 | 33-27 | 23-8678 |
| | | | | | 10 | 24 | 32-08 | 11-3656 | 22 | 54 | 0-56 | 25-0043 |
| | | | | | 11 | 27 | 0-28 | 12-6022 | 23 | 56 | 27-86 | 26-1409 |
| | | | | | 12 | 29 | 27-58 | 13-6387 | | | | |
| 169 to 172 } 356 to 359 } | 0 | 59 | 4-03 | 27-3459 | 1 | 2 | 27-67 | 1-1394 | 13 | 31 | 59-68 | 14-6124 |
| | | | | | 2 | 4 | 55-34 | 2-2788 | 14 | 34 | 27-35 | 15-9518 |
| | | | | | 3 | 7 | 23-00 | 3-4182 | 15 | 36 | 55-02 | 17-0912 |
| | | | | | 4 | 9 | 50-67 | 4-5577 | 16 | 39 | 22-69 | 18-2306 |
| | | | | | 5 | 12 | 18-34 | 5-6971 | 17 | 41 | 50-36 | 19-3700 |
| | | | | | 6 | 14 | 46-01 | 6-8365 | 18 | 44 | 18-02 | 20-5094 |
| | | | | | 7 | 17 | 13-68 | 7-9759 | 19 | 46 | 45-69 | 21-6489 |
| | | | | | 8 | 19 | 41-34 | 9-1153 | 20 | 49 | 13-36 | 22-7883 |
| | | | | | 9 | 22 | 9-01 | 10-2547 | 21 | 51 | 41-03 | 23-9277 |
| | | | | | 10 | 24 | 36-68 | 11-3941 | 22 | 54 | 8-69 | 25-0671 |
| | | | | | 11 | 27 | 4-35 | 12-5335 | 23 | 56 | 36-36 | 26-2065 |
| | | | | | 12 | 29 | 32-02 | 13-6730 | | | | |
| 173 to 176 } 352 to 355 } | 0 | 59 | 12-31 | 27-4098 | 1 | 2 | 28-01 | 1-1421 | 13 | 32 | 4-17 | 14-8470 |
| | | | | | 2 | 4 | 56-03 | 2-2841 | 14 | 34 | 22-18 | 15-9890 |
| | | | | | 3 | 7 | 24-04 | 3-4262 | 15 | 37 | 0-19 | 17-1311 |
| | | | | | 4 | 9 | 52-05 | 4-5683 | 16 | 39 | 28-21 | 18-2732 |
| | | | | | 5 | 12 | 20-06 | 5-7104 | 17 | 41 | 56-22 | 19-4153 |
| | | | | | 6 | 14 | 48-08 | 6-8524 | 18 | 44 | 24-23 | 20-5573 |
| | | | | | 7 | 17 | 16-09 | 7-9945 | 19 | 46 | 52-25 | 21-6994 |
| | | | | | 8 | 19 | 44-10 | 9-1366 | 20 | 49 | 20-26 | 22-8415 |
| | | | | | 9 | 22 | 12-12 | 10-2787 | 21 | 51 | 48-27 | 23-9836 |
| | | | | | 10 | 24 | 40-13 | 11-4207 | 22 | 54 | 16-28 | 25-1256 |
| | | | | | 11 | 27 | 8-14 | 12-5628 | 23 | 56 | 44-30 | 26-2677 |
| | | | | | 12 | 29 | 36-15 | 13-7049 | | | | |
| 177 to 180 } 348 to 351 } | 0 | 59 | 51-18 | 27-4782 | 1 | 2 | 28-35 | 1-1449 | 13 | 32 | 8-97 | 14-8940 |
| | | | | | 2 | 4 | 56-77 | 2-2899 | 14 | 34 | 37-36 | 16-0290 |
| | | | | | 3 | 7 | 25-15 | 3-4348 | 15 | 37 | 5-74 | 17-1739 |
| | | | | | 4 | 9 | 53-53 | 4-5797 | 16 | 39 | 34-12 | 18-3188 |
| | | | | | 5 | 12 | 21-91 | 5-7246 | 17 | 42 | 2-50 | 19-4638 |
| | | | | | 6 | 14 | 50-50 | 6-8696 | 18 | 44 | 30-83 | 20-6087 |
| | | | | | 7 | 17 | 18-68 | 8-0145 | 19 | 46 | 59-27 | 21-7536 |
| | | | | | 8 | 19 | 47-06 | 9-1594 | 20 | 49 | 27-65 | 22-8985 |
| | | | | | 9 | 22 | 15-44 | 10-3043 | 21 | 51 | 56-03 | 24-0435 |
| | | | | | 10 | 24 | 43-83 | 11-4493 | 22 | 54 | 24-42 | 25-1884 |
| | | | | | 11 | 27 | 12-21 | 12-5942 | 23 | 56 | 52-80 | 26-3333 |
| | | | | | 12 | 29 | 40-69 | 13-7391 | | | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha- sankrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | | | | |
|--|---|----|-------|-------------------------------------|------------------|----|-------|-------------------------|------------------|----|-------|-------------------------|
| | o | ′ | ″ | 10,000ths of circle. | No. of hours. | ′ | ″ | 10,000ths of circle. | No. of hours. | ′ | ″ | 10,000ths of circle. |
| 1 | 2 | | | 3 | 4 | 5 | | 6 | 4 | 5 | | 6 |
| 181 to 184 } 344 to 347 } | 0 | 59 | 30-05 | 27-5407 | 1 | 2 | 28-75 | 1-1478 | 13 | 32 | 13-78 | 14-9211 |
| | | | | | 2 | 4 | 57-50 | 2-2956 | 14 | 34 | 42-53 | 16-0689 |
| | | | | | 3 | 7 | 26-26 | 3-4433 | 15 | 37 | 11-28 | 17-2167 |
| | | | | | 4 | 9 | 55-01 | 4-5911 | 16 | 39 | 40-03 | 18-3645 |
| | | | | | 5 | 12 | 23-76 | 5-7389 | 17 | 42 | 8-79 | 19-5122 |
| | | | | | 6 | 14 | 52-51 | 6-8867 | 18 | 44 | 37-54 | 20-6600 |
| | | | | | 7 | 17 | 21-26 | 8-0345 | 19 | 47 | 6-29 | 21-8078 |
| | | | | | 8 | 19 | 50-02 | 9-1822 | 20 | 49 | 35-04 | 22-9556 |
| | | | | | 9 | 22 | 18-77 | 10-3300 | 21 | 52 | 3-79 | 24-1034 |
| | | | | | 10 | 24 | 47-52 | 11-4778 | 22 | 54 | 32-55 | 25-2511 |
| | | | | | 11 | 27 | 16-27 | 12-6256 | 23 | 57 | 1-30 | 26-3989 |
| | | | | | 12 | 29 | 45-03 | 13-7733 | | | | |
| 185 to 187 } 341 to 343 } | 0 | 59 | 38-33 | 27-6106 | 1 | 2 | 29-10 | 1-1504 | 13 | 32 | 18-26 | 14-9557 |
| | | | | | 2 | 4 | 58-19 | 2-3009 | 14 | 34 | 47-36 | 16-1062 |
| | | | | | 3 | 7 | 27-29 | 3-4513 | 15 | 37 | 16-46 | 17-2567 |
| | | | | | 4 | 9 | 56-39 | 4-6018 | 16 | 39 | 45-55 | 18-4070 |
| | | | | | 5 | 12 | 25-49 | 5-7522 | 17 | 42 | 14-65 | 19-5575 |
| | | | | | 6 | 14 | 54-58 | 6-9026 | 18 | 44 | 43-75 | 20-7079 |
| | | | | | 7 | 17 | 23-68 | 8-0531 | 19 | 47 | 12-84 | 21-8584 |
| | | | | | 8 | 19 | 52-78 | 9-2035 | 20 | 49 | 41-04 | 23-0088 |
| | | | | | 9 | 22 | 21-87 | 10-3540 | 21 | 52 | 11-04 | 24-1592 |
| | | | | | 10 | 24 | 50-97 | 11-5044 | 22 | 54 | 40-14 | 25-3097 |
| | | | | | 11 | 27 | 20-07 | 12-6548 | 23 | 57 | 9-23 | 26-4601 |
| | | | | | 12 | 29 | 49-16 | 13-8053 | | | | |
| 188 to 191 } 337 to 340 } | 0 | 59 | 46-61 | 27-6745 | 1 | 2 | 29-44 | 1-1531 | 13 | 32 | 22-75 | 14-9903 |
| | | | | | 2 | 4 | 58-88 | 2-3062 | 14 | 34 | 52-19 | 16-1434 |
| | | | | | 3 | 7 | 28-23 | 3-4593 | 15 | 37 | 21-63 | 17-2965 |
| | | | | | 4 | 9 | 57-77 | 4-6124 | 16 | 39 | 51-07 | 18-4496 |
| | | | | | 5 | 12 | 27-21 | 5-7655 | 17 | 42 | 20-51 | 19-6027 |
| | | | | | 6 | 14 | 56-65 | 6-9186 | 18 | 44 | 49-06 | 20-7558 |
| | | | | | 7 | 17 | 26-09 | 8-0717 | 19 | 47 | 19-40 | 21-9089 |
| | | | | | 8 | 19 | 55-54 | 9-2248 | 20 | 49 | 48-84 | 23-0620 |
| | | | | | 9 | 22 | 24-08 | 10-3779 | 21 | 52 | 18-28 | 24-2151 |
| | | | | | 10 | 24 | 54-42 | 11-5310 | 22 | 54 | 47-72 | 25-3682 |
| | | | | | 11 | 27 | 23-86 | 12-6841 | 23 | 57 | 17-17 | 26-5213 |
| | | | | | 12 | 29 | 53-30 | 13-8372 | | | | |
| 192 to 195 } 333 to 336 } | 0 | 59 | 54-89 | 27-7383 | 1 | 2 | 29-79 | 1-1558 | 13 | 32 | 27-23 | 15-0249 |
| | | | | | 2 | 4 | 59-57 | 2-3115 | 14 | 34 | 57-02 | 16-1807 |
| | | | | | 3 | 7 | 29-36 | 3-4673 | 15 | 37 | 26-80 | 17-3365 |
| | | | | | 4 | 9 | 59-15 | 4-6231 | 16 | 39 | 56-59 | 18-4922 |
| | | | | | 5 | 12 | 28-93 | 5-7788 | 17 | 42 | 26-38 | 19-6480 |
| | | | | | 6 | 14 | 58-72 | 6-9346 | 18 | 44 | 56-17 | 20-8037 |
| | | | | | 7 | 17 | 28-51 | 8-0903 | 19 | 47 | 25-95 | 21-9595 |
| | | | | | 8 | 19 | 58-30 | 9-2461 | 20 | 49 | 55-74 | 23-1153 |
| | | | | | 9 | 22 | 28-08 | 10-4019 | 21 | 52 | 25-53 | 24-2710 |
| | | | | | 10 | 24 | 57-87 | 11-5576 | 22 | 54 | 55-31 | 25-4268 |
| | | | | | 11 | 27 | 27-66 | 12-7134 | 23 | 57 | 25-10 | 26-5826 |
| | | | | | 12 | 29 | 57-44 | 13-8692 | | | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha-samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | | | | |
|--|--|---|-------|-------------------------------------|---------------|----|-------|----------------------|---------------|----|-------|----------------------|
| | ° | ' | " | 10,000ths of circle. | No. of hours. | ' | " | 10,000ths of circle. | No. of hours. | ' | " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | | | | |
| 196 to 199 } 329 to 332 } | 1 | 0 | 3-17 | 27-8022 | 1 | 2 | 30-13 | 1-1584 | 13 | 32 | 31-72 | 15-0695 |
| | | | | | 2 | 5 | 0-26 | 2-3169 | 14 | 35 | 1-85 | 16-2180 |
| | | | | | 3 | 7 | 30-40 | 3-4753 | 15 | 37 | 31-08 | 17-3764 |
| | | | | | 4 | 10 | 0-53 | 4-6337 | 16 | 40 | 2-11 | 18-5348 |
| | | | | | 5 | 12 | 30-66 | 5-7921 | 17 | 42 | 32-24 | 19-6932 |
| | | | | | 6 | 15 | 0-79 | 6-9506 | 18 | 45 | 2-38 | 20-8517 |
| | | | | | 7 | 17 | 30-92 | 8-1090 | 19 | 47 | 32-51 | 22-0101 |
| | | | | | 8 | 20 | 1-06 | 9-2764 | 20 | 50 | 2-64 | 23-1685 |
| | | | | | 9 | 22 | 31-10 | 10-4258 | 21 | 52 | 32-77 | 24-3269 |
| | | | | | 10 | 25 | 1-32 | 11-5843 | 22 | 55 | 2-90 | 25-4854 |
| | | | | | 11 | 27 | 31-45 | 12-7427 | 23 | 57 | 33-03 | 26-6438 |
| | | | | | 12 | 30 | 1-58 | 13-9011 | | | | |
| 200 to 203 } 325 to 328 } | 1 | 0 | 10-85 | 27-8615 | 1 | 2 | 30-45 | 1-1609 | 13 | 32 | 35-88 | 15-0917 |
| | | | | | 2 | 5 | 0-00 | 2-3218 | 14 | 35 | 6-33 | 16-2526 |
| | | | | | 3 | 7 | 31-36 | 3-4827 | 15 | 37 | 36-78 | 17-4135 |
| | | | | | 4 | 10 | 1-81 | 4-6436 | 16 | 40 | 7-24 | 18-5744 |
| | | | | | 5 | 12 | 32-26 | 5-8045 | 17 | 42 | 37-69 | 19-7353 |
| | | | | | 6 | 15 | 2-71 | 6-9654 | 18 | 45 | 8-14 | 20-8961 |
| | | | | | 7 | 17 | 33-17 | 8-1263 | 19 | 47 | 38-59 | 22-0570 |
| | | | | | 8 | 20 | 3-62 | 9-2872 | 20 | 50 | 9-05 | 23-2179 |
| | | | | | 9 | 22 | 34-07 | 10-4481 | 21 | 52 | 59-50 | 24-3788 |
| | | | | | 10 | 25 | 4-52 | 11-6090 | 22 | 55 | 9-95 | 25-5397 |
| | | | | | 11 | 27 | 34-98 | 12-7699 | 23 | 57 | 40-40 | 26-7006 |
| | | | | | 12 | 30 | 5-43 | 13-9308 | | | | |
| 204 to 206 } 321 to 324 } | 1 | 0 | 18-54 | 27-9209 | 1 | 2 | 30-77 | 1-1634 | 13 | 32 | 40-04 | 15-1238 |
| | | | | | 2 | 5 | 1-55 | 2-3267 | 14 | 35 | 10-82 | 16-2872 |
| | | | | | 3 | 7 | 32-32 | 3-4901 | 15 | 37 | 41-59 | 17-7505 |
| | | | | | 4 | 10 | 3-09 | 4-6535 | 16 | 40 | 12-36 | 18-6139 |
| | | | | | 5 | 12 | 33-86 | 5-8168 | 17 | 42 | 43-13 | 19-7773 |
| | | | | | 6 | 15 | 4-64 | 6-9802 | 18 | 45 | 13-91 | 20-9406 |
| | | | | | 7 | 17 | 35-41 | 8-1436 | 19 | 47 | 44-68 | 22-1040 |
| | | | | | 8 | 20 | 6-18 | 9-3070 | 20 | 50 | 15-45 | 23-2674 |
| | | | | | 9 | 22 | 36-95 | 10-4703 | 21 | 52 | 46-22 | 24-4307 |
| | | | | | 10 | 25 | 7-73 | 11-6337 | 22 | 55 | 17-00 | 25-5941 |
| | | | | | 11 | 27 | 38-50 | 12-7971 | 23 | 57 | 47-77 | 26-7575 |
| | | | | | 12 | 30 | 9-27 | 13-9604 | | | | |
| 207 to 210 } 318 to 320 } | 1 | 0 | 25-64 | 27-9766 | 1 | 2 | 31-07 | 1-1657 | 13 | 32 | 43-89 | 15-1535 |
| | | | | | 2 | 5 | 2-14 | 2-3313 | 14 | 35 | 14-76 | 16-3191 |
| | | | | | 3 | 7 | 33-20 | 3-4970 | 15 | 37 | 46-02 | 17-4848 |
| | | | | | 4 | 10 | 4-27 | 4-6626 | 16 | 40 | 17-09 | 18-6504 |
| | | | | | 5 | 12 | 35-34 | 5-8283 | 17 | 42 | 48-16 | 19-8161 |
| | | | | | 6 | 15 | 6-41 | 6-9939 | 18 | 45 | 19-23 | 20-9817 |
| | | | | | 7 | 17 | 37-48 | 8-1596 | 19 | 47 | 50-30 | 22-1474 |
| | | | | | 8 | 20 | 8-55 | 9-3252 | 20 | 50 | 21-37 | 23-3130 |
| | | | | | 9 | 22 | 39-61 | 10-4909 | 21 | 52 | 52-43 | 24-4787 |
| | | | | | 10 | 25 | 10-08 | 11-6565 | 22 | 55 | 23-50 | 25-6443 |
| | | | | | 11 | 27 | 41-75 | 12-8222 | 23 | 57 | 54-57 | 26-8100 |
| | | | | | 12 | 30 | 12-82 | 13-9878 | | | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha- samkrānti (inclusive). | Arc travelled by true sun in 24 hours. | | * Arc travelled by true sun per hour. | | | | | |
|--|---|-------------------------|--|--|--|---|---|-------------------------|
| | ° ' " | 10,000ths of circle. | No. of hours. | ' " | 10,000ths of circle. | No. of hours. | ' " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 |
| 211 to 214 } 314 to 317 } | 1 0 32-74 | 28-0304 | 1 2 31-36 2 5 2-73 3 7 34-09 4 10 5-46 5 12 36-82 6 15 8-18 7 17 39-55 8 20 10-01 9 22 42-28 10 25 13-64 11 27 45-00 12 30 16-37 | 1-1679 2-3359 3-5038 4-6717 5-8397 7-0076 8-1755 9-3435 10-5114 11-6793 12-8472 14-0152 | 13 14 15 16 17 18 19 20 21 22 23 | 32 47-73 35 19-10 37 50-46 40 21-82 42 53-19 45 24-55 47 55-92 50 27-28 52 58-64 55 30-01 58 1-37 | 15-1831 16-3510 17-5190 18-6869 19-8548 21-0228 22-1907 23-3586 24-5266 25-6945 26-8624 | |
| 215 to 218 } 310 to 313 } | 1 0 39-24 | 28-0806 | 1 2 31-63 2 5 3-27 3 7 34-00 4 10 6-54 5 12 38-17 6 15 9-81 7 17 41-44 8 20 13-08 9 22 44-71 10 25 16-35 11 27 47-98 12 30 19-62 | 1-1700 2-3400 3-5101 4-6801 5-8501 7-0201 8-1902 9-3602 10-5302 11-7002 12-8703 14-0403 | 13 14 15 16 17 18 19 20 21 22 23 | 32 51-25 35 22-89 37 54-52 40 26-16 42 57-79 45 29-43 48 1-06 50 32-70 53 4-33 55 35-97 58 7-60 | 15-2103 16-3803 17-5503 18-7204 19-8904 21-0604 22-2304 23-4005 24-5705 25-7405 26-9105 | |
| 219 to 222 } 306 to 309 } | 1 0 45-15 | 28-1262 | 1 2 31-88 2 5 3-76 3 7 35-64 4 10 7-53 5 12 39-41 6 15 11-29 7 17 43-17 8 20 15-05 9 22 46-93 10 25 18-81 11 27 50-70 12 30 22-58 | 1-1719 2-3438 3-5158 4-6877 5-8596 7-0315 8-2035 9-3754 10-5473 11-7192 12-8912 14-0631 | 13 14 15 16 17 18 19 20 21 22 23 | 32 54-46 35 26-34 37 58-22 40 30-10 43 1-08 45 33-87 48 5-75 50 37-63 53 9-51 55 41-39 58 13-27 | 15-2350 16-4069 17-5789 18-7508 19-9227 21-0946 22-2666 23-4385 24-6104 25-7823 26-9543 | |
| 223 to 225 } 302 to 305 } | 1 0 51-07 | 28-178 | 1 2 32-13 2 5 4-26 3 7 36-38 4 10 8-51 5 12 40-64 6 15 12-77 7 17 44-89 8 20 17-02 9 22 49-15 10 25 21-28 11 27 53-41 12 30 25-53 | 1-1738 2-3477 3-5215 4-6953 5-8691 7-0430 8-2168 9-3906 10-5644 11-7383 12-9121 14-0859 | 13 14 15 16 17 18 19 20 21 22 23 | 32 57-66 35 29-79 37 1-92 40 34-04 43 6-17 45 38-30 48 10-43 50 42-56 53 14-68 55 46-81 58 18-94 | 15-2597 16-43-6 17-6074 18-7812 19-9550 21-1289 22-3027 23-4765 24-6503 25-8242 26-9980 | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēṣa-saṭhkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | | | | |
|--|--|---|-------|-------------------------------------|---------------|----|-------|----------------------|---------------|----|-------|----------------------|
| | ° | ' | " | 10,000ths of circle. | No. of Hours. | ' | " | 10,000ths of circle. | No. of Hours. | ' | " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | 4 | 5 | 6 | |
| 226 to 229 } 299 to 301 } | 1 | 0 | 56-39 | 28-2129 | 1 | 2 | 32-35 | 1-1755 | 13 | 33 | 0-54 | 15-2820 |
| | | | | | 2 | 5 | 4-70 | 2-3511 | 14 | 35 | 32-89 | 16-4573 |
| | | | | | 3 | 7 | 37-05 | 3-5266 | 15 | 38 | 5-24 | 17-6331 |
| | | | | | 4 | 10 | 9-40 | 4-7021 | 16 | 40 | 37-59 | 18-8086 |
| | | | | | 5 | 12 | 41-75 | 5-8777 | 17 | 43 | 9-94 | 19-9841 |
| | | | | | 6 | 15 | 14-10 | 7-0532 | 18 | 45 | 42-29 | 21-1597 |
| | | | | | 7 | 17 | 46-45 | 8-2288 | 19 | 48 | 14-64 | 22-3352 |
| | | | | | 8 | 20 | 18-80 | 9-4043 | 20 | 50 | 46-99 | 23-5107 |
| | | | | | 9 | 22 | 51-15 | 10-5798 | 21 | 53 | 19-34 | 24-6863 |
| | | | | | 10 | 25 | 23-50 | 11-7554 | 22 | 55 | 51-69 | 25-8618 |
| | | | | | 11 | 27 | 55-85 | 12-9309 | 23 | 58 | 24-04 | 27-0373 |
| | | | | | 12 | 30 | 28-19 | 14-1064 | | | | |
| 230 to 233 } 295 to 298 } | 1 | 1 | 1-12 | 28-2494 | 1 | 2 | 32-55 | 1-1771 | 13 | 33 | 3-11 | 15-3108 |
| | | | | | 2 | 5 | 5-09 | 2-3541 | 14 | 35 | 35-65 | 16-4788 |
| | | | | | 3 | 7 | 37-64 | 3-5312 | 15 | 38 | 8-20 | 17-6559 |
| | | | | | 4 | 10 | 10-19 | 4-7082 | 16 | 40 | 40-75 | 18-8329 |
| | | | | | 5 | 12 | 42-73 | 5-8853 | 17 | 43 | 13-29 | 20-0100 |
| | | | | | 6 | 15 | 15-28 | 7-0623 | 18 | 45 | 45-84 | 21-1870 |
| | | | | | 7 | 17 | 47-83 | 8-2394 | 19 | 48 | 18-39 | 22-3641 |
| | | | | | 8 | 20 | 20-37 | 9-4615 | 20 | 50 | 50-93 | 23-5412 |
| | | | | | 9 | 22 | 52-92 | 10-5935 | 21 | 53 | 23-48 | 24-7182 |
| | | | | | 10 | 25 | 25-47 | 11-7706 | 22 | 55 | 56-03 | 25-8953 |
| | | | | | 11 | 27 | 58-01 | 12-9476 | 23 | 58 | 28-57 | 27-0723 |
| | | | | | 12 | 30 | 30-56 | 14-1247 | | | | |
| 234 to 237 } 291 to 294 } | 1 | 1 | 5-85 | 28-2859 | 1 | 2 | 32-74 | 1-1786 | 13 | 33 | 5-67 | 15-3215 |
| | | | | | 2 | 5 | 5-49 | 2-3572 | 14 | 35 | 38-41 | 16-5001 |
| | | | | | 3 | 7 | 38-23 | 3-5357 | 15 | 38 | 11-16 | 17-6787 |
| | | | | | 4 | 10 | 10-98 | 4-7143 | 16 | 40 | 43-90 | 18-8573 |
| | | | | | 5 | 12 | 43-72 | 5-8929 | 17 | 43 | 16-64 | 20-0358 |
| | | | | | 6 | 15 | 16-46 | 7-0715 | 18 | 45 | 49-39 | 21-2144 |
| | | | | | 7 | 17 | 49-21 | 8-2501 | 19 | 48 | 22-13 | 22-3940 |
| | | | | | 8 | 20 | 21-95 | 9-4286 | 20 | 50 | 54-88 | 23-5716 |
| | | | | | 9 | 22 | 54-69 | 10-6072 | 21 | 53 | 27-62 | 24-7502 |
| | | | | | 10 | 25 | 27-44 | 11-7858 | 22 | 56 | 0-36 | 25-9287 |
| | | | | | 11 | 28 | 0-18 | 12-9644 | 23 | 58 | 3-11 | 27-1073 |
| | | | | | 12 | 30 | 32-93 | 14-1429 | | | | |
| 238 to 241 } 287 to 290 } | 1 | 1 | 0-40 | 28-3133 | 1 | 2 | 32-89 | 1-1797 | 13 | 33 | 7-59 | 15-3364 |
| | | | | | 2 | 5 | 5-78 | 2-3594 | 14 | 35 | 40-48 | 16-5161 |
| | | | | | 3 | 7 | 38-67 | 3-5392 | 15 | 38 | 13-37 | 17-6958 |
| | | | | | 4 | 10 | 11-57 | 4-7189 | 16 | 40 | 46-27 | 18-8755 |
| | | | | | 5 | 12 | 44-46 | 5-8986 | 17 | 43 | 19-16 | 20-0552 |
| | | | | | 6 | 15 | 17-35 | 7-0783 | 18 | 45 | 52-05 | 21-2350 |
| | | | | | 7 | 17 | 50-24 | 8-2580 | 19 | 48 | 24-94 | 22-4147 |
| | | | | | 8 | 20 | 23-13 | 9-4378 | 20 | 50 | 57-83 | 23-5944 |
| | | | | | 9 | 22 | 56-02 | 10-6175 | 21 | 53 | 30-72 | 24-7741 |
| | | | | | 10 | 25 | 28-92 | 11-7972 | 22 | 56 | 3-62 | 25-9538 |
| | | | | | 11 | 28 | 1-81 | 12-9769 | 23 | 58 | 34-51 | 27-1335 |
| | | | | | 12 | 30 | 34-70 | 14-1566 | | | | |

TABLE XLIX—*Contd.*

| 24-hour periods from true Mēsha- samkrānti (inclusive). | Are travelled by true sun in 24 hours. | | | Are travelled by true sun per hour. | | | | | | | | | | |
|--|---|---|-------|-------------------------------------|--|---|--|--|--|---|---|----|----|-------------------------|
| | ° | ' | " | 10,000ths of circle. | No. of Hours. | ° | ' | " | 10,000ths of circle. | No. of Hours. | ° | ' | " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 242 to 244 } 283 to 286 } | 1 | 1 | 12-30 | 28-3361 | 1 2 33-01 2 5 6-03 3 7 39-04 4 10 12-06 5 12 45-07 6 15 18-09 7 17 51-10 8 20 24-12 9 22 57-13 10 25 30-15 11 28 3-16 12 30 36-18 | 1-1807 2-3613 3-5420 4-7227 5-9034 6-10840 7-0840 8-2647 9-4454 10-6260 11-8067 12-9874 14-1680 | 13 14 15 16 17 18 19 20 21 22 23 | 33 35 38 40 43 45 48 51 53 56 58 | 9-19 42-21 15-22 48-24 21-25 54-27 27-28 0-30 33-31 6-33 39-34 | 15-3487 16-5294 17-7101 18-8907 20-0714 21-2521 22-4327 23-6134 24-7941 25-9747 27-1554 | | | | |
| 245 to 248 } 280 to 282 } | 1 | 1 | 15-31 | 28-3589 | 1 2 33-14 2 5 6-28 3 7 39-41 4 10 12-55 5 12 45-69 6 15 18-83 7 17 51-97 8 20 25-10 9 22 58-24 10 25 31-38 11 28 4-52 12 30 37-06 | 1-1816 2-3632 3-5449 4-7265 5-9081 6-10897 7-0897 8-2713 9-4530 10-6346 11-8162 12-9978 14-1794 | 13 14 15 16 17 18 19 20 21 22 23 | 33 35 38 40 43 45 48 51 53 56 58 | 10-79 43-93 17-07 50-21 23-35 56-48 29-02 2-76 35-90 9-04 42-18 | 15-3611 16-5427 17-7243 18-9059 20-0876 21-2692 22-4508 23-6324 24-8140 25-9957 27-1773 | | | | |
| 249 to 252 } 276 to 279 } | 1 | 1 | 16-03 | 28-3771 | 1 2 33-17 2 5 6-34 3 7 39-50 4 10 12-67 5 12 45-84 6 15 19-01 7 17 52-18 8 20 25-34 9 22 58-51 10 25 31-68 11 28 4-85 12 30 38-02 | 1-1824 2-3648 3-5471 4-7295 5-9119 6-10943 7-0943 8-2767 9-4590 10-6414 11-8238 13-0062 14-1886 | 13 14 15 16 17 18 19 20 21 22 23 | 33 35 38 40 43 45 48 51 53 56 58 | 11-18 44-35 17-52 50-69 23-86 57-02 30-19 3-36 36-53 9-70 42-86 | 15-3710 16-5533 17-7357 18-9181 20-1005 21-2829 22-4652 23-6476 24-8300 26-0124 27-1948 | | | | |
| 253 to 256 } 272 to 275 } | 1 | 1 | 19-45 | 28-3908 | 1 2 33-31 2 5 6-62 3 7 39-03 4 10 13-24 5 12 46-55 6 15 19-86 7 17 53-17 8 20 26-48 9 22 59-79 10 25 33-11 11 28 6-42 12 30 39-73 | 1-1830 2-3659 3-5489 4-7218 5-9148 6-10977 7-0977 8-2807 9-4636 10-6466 11-8295 13-0125 14-1954 | 13 14 15 16 17 18 19 20 21 22 23 | 33 35 38 40 43 45 48 51 53 56 58 | 13-04 46-35 19-66 52-97 26-28 59-59 32-90 6-21 39-52 12-83 46-14 | 15-3784 16-5613 17-7443 18-9272 20-1102 21-2931 22-4761 23-6590 24-8420 26-0248 27-2078 | | | | |

TABLE XLIX—Contd.

| 24-hour periods from true Mēsha- sankrānti (inclusive). | Arc travelled by true sun in 24 hours. | | Arc travelled by true sun per hour. | | | | | |
|--|---|-------------------------|---|--|--|--|---|-------------------------|
| | ° ' " | 10,000ths of circle. | No. of Hours. | ° ' " | 10,000ths of circle. | No. of hours. | ° ' " | 10,000ths of circle. |
| 1 | 2 | 3 | 4 | 5 | 6 | 4 | 5 | 6 |
| 267 to 260 } 268 to 271 } | 1 1 20-64 | 28-4000 | 1 2 33-36 2 5 6-72 3 7 40-08 4 10 13-44 5 12 46-80 6 15 20-16 7 17 53-52 8 20 26-88 9 23 0-24 10 25 33-60 11 28 6-96 12 30 40-32 | 1-1833 2-3667 3-5500 4-7333 5-9167 7-1000 8-2833 9-4667 10-6500 11-8333 13-0166 14-2000 | 13 14 15 16 17 18 19 20 21 22 23 | 33 13-68 35 47-04 38 20-40 40 53-76 43 27-12 46 0-48 48 33-84 51 7-20 53 40-56 56 13-92 58 47-28 | 15-3833 16-5666 17-7500 18-9333 20-1166 21-3000 22-4833 23-6666 24-8500 25-0333 26-2166 | |
| 261 to 267 } (True sun in perigee, on Day 263.) | 1 1 21-23 | 28-4045 | 1 2 33-38 2 5 6-77 3 7 40-15 4 10 13-54 5 12 46-92 6 15 20-31 7 17 53-69 8 20 27-08 9 23 0-46 10 25 33-84 11 28 7-23 12 30 40-61 | 1-1835 2-3670 3-5506 4-7341 5-9176 7-1011 8-2847 9-4682 10-6517 11-8352 13-0187 14-2023 | 13 14 15 16 17 18 19 20 21 22 23 | 33 14-00 35 47-38 38 20-77 40 54-15 43 27-54 46 0-92 48 34-30 51 7-69 53 41-07 56 14-46 58 47-84 | 15-3858 16-5693 17-7528 18-9364 20-1199 21-3034 22-4869 23-6704 24-8540 26-0375 27-2210 | |

TABLE I.
ELEMENTS OF THE SUN'S LONGITUDE.
MINUTES.

The figures in Columns 2, 3, show the sun's *mean* movement during the times noted in Column 1.

| Time Mins. | ' " | 10,000ths of circle. | Time Mins. | ' " | 10,000ths of circle. | Time Mins. | ' " | 10,000ths of circle. |
|---------------|---------|-------------------------|---------------|---------|-------------------------|---------------|---------|-------------------------|
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 1 | 0 1-23 | 0-0095 | 21 | 0 51-74 | 0-3993 | 41 | 1 41-02 | 0-7795 |
| 2 | 0 2-45 | 0-0190 | 22 | 0 54-21 | 0-4183 | 42 | 1 43-49 | 0-7985 |
| 3 | 0 4-93 | 0-0380 | 23 | 0 56-67 | 0-4373 | 43 | 1 45-95 | 0-8175 |
| 4 | 0 7-39 | 0-0570 | 24 | 0 59-14 | 0-4563 | 44 | 1 48-42 | 0-8365 |
| 5 | 0 9-86 | 0-0760 | 25 | 1 1-60 | 0-4753 | 45 | 1 50-88 | 0-8556 |
| 6 | 0 12-32 | 0-0951 | 26 | 1 4-06 | 0-4943 | 46 | 1 53-34 | 0-8746 |
| 7 | 0 14-78 | 0-1141 | 27 | 1 6-53 | 0-5133 | 47 | 1 55-81 | 0-8936 |
| 8 | 0 17-25 | 0-1331 | 28 | 1 8-99 | 0-5323 | 48 | 1 58-27 | 0-9126 |
| 9 | 0 19-71 | 0-1521 | 29 | 1 11-46 | 0-5514 | 49 | 2 0-74 | 0-9316 |
| 10 | 0 22-18 | 0-1711 | 30 | 1 13-92 | 0-5704 | 50 | 2 3-20 | 0-9506 |
| 11 | 0 24-64 | 0-1901 | 31 | 1 16-38 | 0-5894 | 51 | 2 5-66 | 0-9696 |
| 12 | 0 27-10 | 0-2091 | 32 | 1 18-85 | 0-6084 | 52 | 2 8-13 | 0-9886 |
| 13 | 0 29-57 | 0-2281 | 33 | 1 21-31 | 0-6274 | 53 | 2 10-59 | 1-0077 |
| 14 | 0 32-03 | 0-2472 | 34 | 1 23-78 | 0-6464 | 54 | 2 13-06 | 1-0267 |
| 15 | 0 34-50 | 0-2662 | 35 | 1 26-24 | 0-6654 | 55 | 2 15-52 | 1-0457 |
| 16 | 0 36-96 | 0-2852 | 36 | 1 28-70 | 0-6844 | 56 | 2 17-98 | 1-0647 |
| 17 | 0 39-42 | 0-3042 | 37 | 1 31-17 | 0-7035 | 57 | 2 20-45 | 1-0837 |
| 18 | 0 41-89 | 0-3232 | 38 | 1 33-63 | 0-7225 | 58 | 2 22-91 | 1-1027 |
| 19 | 0 44-35 | 0-3422 | 39 | 1 36-10 | 0-7415 | 59 | 2 25-38 | 1-1217 |
| 20 | 0 46-82 | 0-3612 | 40 | 1 38-56 | 0-7605 | 60 | 2 27-84 | 1-1407 |

N. B.—Since this Table shows the sun's *mean* motion during the number of minutes indicated, a slight correction must be made in order to ascertain his *true* motion, if very great accuracy is required. The largest possible correction, namely for 59 minutes on the days 81 and 263 (when the sun is in apogee and perigee and is therefore at his slowest and quickest) is, on Day 81, minus $5^{\circ}45'16''$ or 0-0421, and on Day 263 plus the same.

Hence on Day 81 the true sun's journey in 59 m. must be taken as (by the Table, $2^{\circ}25'38'' - 5^{\circ}45''$) $2^{\circ}19'93''$, or (by the Table, $1-1217 - 0-0421 =$) $1-0796$; and on Day 263 as ($2^{\circ}25'38'' + 5^{\circ}45'' =$) $2^{\circ}30'83''$, or ($1-1217 + 0-042 =$) $1-1638$.

It is not necessary to frame a Table to meet corrections less than this. Calculation can always be made by taking from the Hour Table (Table XIX) the true sun's motion in one hour on the day in question, dividing this by 60, and multiplying the result by the number of minutes concerned.

TABLE I-A.

ELEMENTS OF THE SUN'S LONGITUDE.

Seconds.- Cols. 2, 3, shew the Sun's *mean* movement during times noted in Col. 1.

| Time seconds | " | 10,000ths of circle. | Time seconds. | " | 10,000ths of circle. | Time seconds. | " | 10,000ths of circle. |
|-----------------|-------|-------------------------|------------------|-------|-------------------------|------------------|-------|-------------------------|
| 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| 1 | 0-041 | 0-0003 | 21 | 0-862 | 0-0067 | 41 | 1-684 | 0-0130 |
| 2 | 0-082 | 0-0006 | 22 | 0-903 | 0-0070 | 42 | 1-725 | 0-0133 |
| 3 | 0-123 | 0-0010 | 23 | 0-945 | 0-0073 | 43 | 1-766 | 0-0136 |
| 4 | 0-164 | 0-0013 | 24 | 0-986 | 0-0076 | 44 | 1-807 | 0-0139 |
| 5 | 0-205 | 0-0016 | 25 | 1-027 | 0-0079 | 45 | 1-848 | 0-0142 |
| 6 | 0-246 | 0-0019 | 26 | 1-068 | 0-0082 | 46 | 1-889 | 0-0146 |
| 7 | 0-287 | 0-0022 | 27 | 1-109 | 0-0086 | 47 | 1-930 | 0-0149 |
| 8 | 0-329 | 0-0025 | 28 | 1-150 | 0-0089 | 48 | 1-971 | 0-0152 |
| 9 | 0-370 | 0-0029 | 29 | 1-191 | 0-0092 | 49 | 2-012 | 0-0155 |
| 10 | 0-411 | 0-0032 | 30 | 1-232 | 0-0095 | 50 | 2-053 | 0-0158 |
| 11 | 0-452 | 0-0035 | 31 | 1-273 | 0-0098 | 51 | 2-094 | 0-0162 |
| 12 | 0-493 | 0-0038 | 32 | 1-314 | 0-0101 | 52 | 2-135 | 0-0165 |
| 13 | 0-534 | 0-0041 | 33 | 1-355 | 0-0105 | 53 | 2-177 | 0-0168 |
| 14 | 0-575 | 0-0044 | 34 | 1-396 | 0-0108 | 54 | 2-218 | 0-0171 |
| 15 | 0-616 | 0-0048 | 35 | 1-437 | 0-0111 | 55 | 2-259 | 0-0174 |
| 16 | 0-657 | 0-0051 | 36 | 1-478 | 0-0114 | 56 | 2-300 | 0-0177 |
| 17 | 0-698 | 0-0054 | 37 | 1-519 | 0-0117 | 57 | 2-341 | 0-0181 |
| 18 | 0-739 | 0-0057 | 38 | 1-561 | 0-0120 | 58 | 2-382 | 0-0184 |
| 19 | 0-780 | 0-0060 | 39 | 1-602 | 0-0124 | 59 | 2-423 | 0-0187 |
| 20 | 0-821 | 0-0063 | 40 | 1-643 | 0-0127 | 60 | 2-464 | 0-0190 |

The Table follows M. de Rice's fixture of the sun's *mean* movement in 1 time-minute by the *Siddhanta*.
Śirōmaṇi viz. 2°-464,008,788, or 0-019,012,414.

THE TRUE LONGITUDE OF THE SUN IN HINDU ASTRONOMY, PART II.
THE SIDDHĀNTA-ŚIRŌMANI.

(Previously published in *Epigraphia Indica*, Vol. XIV, pp. 241-264.)

257. In my last article I have given Tables for finding the longitude of the sun, both mean and true, at any time of any year according to two of the great Indian astronomical authorities, the *First Ārya-Siddhānta* or *Āryabhaṭīya* of Āryabhaṭa (A.D. 499) and the *Present Sūrya-Siddhānta* (exact date unknown, introduced about A.D. 1100). The present Table affords similar information for the *Siddhānta-Śirōmaṇi* (12th century).

In case my Tables should be considered over-minute in detail, running as the entries do to several decimal points, I would ask readers to remember that they are designed as standard Tables for the settlement of the closest possible cases. Such a case as is mentioned in my former paper (*above*, §§ 206, 207, on the *Cycle of Jupiter*, p. 2) proves that permanent reference Tables can hardly be too accurate. I have found other cases somewhat similar in calculating the intercalated and suppressed lunar months by the *Siddhānta-Śirōmaṇi*. In ordinary cases it will always suffice to work with merely the whole numbers.

Elements of the Siddhānta-Śirōmaṇi.

258. The *Siddhānta-Śirōmaṇi* by Bhāskaraṭhārya dates, it is believed, from about A.D. 1150, though Dr. Bhau Dājī (J. R. A. S. n. s. I. 392) placed it in about 1105. It was used in some tracts and for some periods—we have yet to learn which—for the preparation of local almanacs.

According to this authority the length of the year from mean Mēsha-saṁkrānti to mean Mēsha-saṁkrānti is $365^d\ 6^h\ 12^m\ 9^s$ or $365^d\ 258437500$.

Its sine-values of angles are the same as in the *Ārya-* and *Sūrya-Siddhāntas*, with radius taken as equal to 3438'.

For the sun's mean motion in days, hours, etc., see Table XLIII above.

The twenty-four base equations are given in col. 9 of Table XLVII above with the differences per minute of anomaly angle (col. 10), and in fuller detail in Table XLVII, A, cols. 9-10.

The epicycle of the sun not being considered as contracted at any part of the orbit, as it is in the *Sūrya-Siddhānta*, and the circumference of the epicycle being given as $13^\circ\ 40'$ or $820'$, the equation (α being the sun's mean anomaly, or the angular distance of the mean sun from the perigee-point of his orbit) is $\frac{13^\circ\ 40'}{360^\circ} \sin. \alpha$, or $\frac{820'}{21600} \sin. \alpha$, or finally $\frac{41}{1080} \sin. \alpha$.

This Siddhānta postulates a constant forward shift in the line of apsides of the sun's orbit. This shift is more rapid than the *Sūrya-Siddhānta's* shift and amounts to $0^{\circ}\ 0174$ or $1^{\circ}\ 044$ per annum, and to $11^{\circ}\ 18'\ 6$ or $11^{\circ}\ 31'$ in the 650 years succeeding A.D. 1100.¹

According to the *Siddhānta-Śirōmaṇi* the Kaliyuga began, or in other words K. Y. 0 began, with a conjunction at celestial longitude 0° or 360° of mean sun, mean moon and other planets at the moment of mean sunrise or 6 A.M. on Friday 18th February B.C. 3102 or 18th

¹ The shift according to the *Ārya-Siddhānta* is nil.

" " *Brāhma-Siddhānta* $0^{\circ}\ 144$ per ann.

" " *Sūrya-Siddhānta* $0^{\circ}\ 1161$ "

" " *Siddhānta-Śirōmaṇi* $1^{\circ}\ 044$ "

" " *2nd Ārya-Siddhānta* $0^{\circ}\ 1383$ "

(Jacobi, *Epig. Ind. I. 441*)

February 0^h 0^m 0^s Lanka time. This was the moment of mean Mēsha-saṁkrānti in that year. True Mēsha-saṁkrānti, the moment when the true or apparent sun touched long. 0°, occurred by the same authority on Tuesday 15th Feb. in that year at 19^h 52^m 21^s after mean sunrise.

The interval between these two occurrences, which we call the *śodhya*, and which is the time occupied by the sun in travelling over the arc of the equation-angle, was 2^d 17^h 19^m 21^s or 2^d 4^h 7^m 38^s in K.Y. 0 according to Dr. Schram's calculation (see "*Indian Chronography*," Table, p. 16).¹

259. In the matter of the sun's equation and true longitude it should be noted that every entry in cols. 6 to 9 of Table XLVIII C has been separately calculated from the value of his mean anomaly at each twenty-four-hour period measured from the moment of true Mēsha-saṁkrānti, by use of the *Siddhānta-Sīromani* equation Table.

260. The forward shift of the sun's apsis, while leaving the sun's mean longitude unaffected, causes a slight change every year in the sun's mean anomaly (his mean distance from the perigee-point), this becoming each year proportionally less as the perigee-point moves forward. And since the shift induces a corresponding, though very minute, change in the velocity of the sun (considered as a planet) at all times of the year, the sun's equation and true longitude are each year a little different from what they were in the year previous.

The change in mean anomaly is stated in Table LI below.

The change caused by the shift of the apsis in the equation and true longitude of the sun at true Mēsha-saṁkrānti amounts to only 2" (actually 1".9675) in the 300 years on either side of K.Y. 4500, which is the base-year of the train Table XLVIII C which follows,—the annual change being at the rate of about 0".0066 per annum.²

The corresponding time-difference, or change in the *śodhya*-value, is about 0".16 per annum (actually 0".15975) by which amount the *śodhya*-value at true Mēsha-saṁkrānti increases every year. In 300 years this amounts to 47".925 or about 48". (For particulars see Table LII.)

261. The length of the solar year from mean Mēsha-saṁkrānti to mean Mēsha-saṁkrānti according to this *Siddhānta* being 365^d 6^h 12^m 9^s, it differs from that of the *Ārya-Siddhānta* year of 365^d 6^h 12^m 30^s by 21^s every year since K.Y. 0. The difference-Table given in *Indian Chronography*, p. 61, is here reprinted for ready reference (Table LIII). The difference is cumulative from K.Y. 0. In A.D. 1120, which is the very earliest date possible for the *Siddhānta-Sīromani* to have come into use (it was probably 30 years later), the moment of mean Mēsha-saṁkrānti by that authority was already 1^d 0^h 37^m 21^s earlier than the same according to the *Ārya-Siddhānta*, and the difference between them increased with every subsequent year. Consequently both mean and true Mēsha-saṁkrānti by the *Siddhānta-Sīromani* always fell respectively on the day previous to their occurrence by *Ārya-Siddhānta* reckoning, the time of which is given in the "*Indian Calendar*," Table I, cols. 13 to 17.

When therefore we are examining a date and have worked in the ordinary way for settlement of details by the *Ārya-Siddhānta*, using the *Indian Calendar* process for finding the values *a*, *b*, *c*, *s* and *n*, if we desire to find roughly the value of *s* according to the *Siddhānta-Sīromani* by use of the new Table XLVIII C below for determination of the nakṣatra by that authority, we must take the Table value of *s* (cols. 8-9) not for the day-number given in the Table, but for the day next following. *E.g.*, if we suppose that preliminary examination of a date by the *Indian Calendar* process proves the record-date to be Day 120 (as measured from 1st Jan.) and that Table I, cols. 13-17, shews that by the *Ārya-Siddhānta* true Mēsha-saṁkrānti took place on Day 85, then in order to ascertain the equation and longitude of the sun by the

¹ For explanation of technical matters see above, §§ 249-255, pp. 52-55.

² *Minus* for years earlier, *plus* for years later, than the base-year.

Siddhānta-Śirōmaṇi we must take the details given in Table XVIII C not as given for (120—85) Day 35, but for Day 36, that number of days having elapsed since true Mēsha-saṁkrānti by the latter authority. For accuracy the difference between the times of true Mēsha-saṁkrānti by the two authorities must be allowed for.

262. Since the Table-entries are for each twenty-four-hour period from true Mēsha-saṁkrānti in any year it is necessary to know the number of hours and minutes since sunrise of the occurrence of true Mēsha-saṁkrānti in the year in question, and deduct the sun's movement during those hours and minutes, in order to arrive at his true longitude at mean sunrise of the given day. The hours and minutes are given in Table LX below, cols. 13-17. For the sun's movement it will almost always suffice to use Tables XLIX, L, above. See § 243 above, p. 47, where the remarks regarding the *Sārya-Siddhānta* apply, *mutatis mutandis*, to the *Siddhānta-Śirōmaṇi* also. The entries in Table LX, cols. 13-17, may be verified in the following manner.

To find time of true Mēsha-saṁkrānti by the *Siddhānta-Śirōmaṇi*; (i) *The longer rule.* Take the moment of true Mēsha-saṁkrānti by the *Ārya-Siddhānta* from Table I of the *Indian Calendar*, cols. 13 to 17, adding 30' in odd A.D. years, none in even (*Hint* 20, p. 79, *Indian Chronography*). Add the *śodhya* by that authority—always $2^h 3^m 32^s 30'$. This gives the time of mean Mēsha-saṁkrānti. Deduct for every year of the Kaliyuga expired at the given date the amount obtained from Table LIII below. This gives the time of mean Mēsha-saṁkrānti by the *Siddhānta-Śirōmaṇi*. Deduct the amount of *śodhya* noted in Table LII below for the given year; for great exactness it may be found from col. 3, difference for the given year in minutes and seconds being calculated from the entry for the beginning of the century: for close approximation take, without further calculation, the century entry in col. 4. The result is the required time of true Mēsha-saṁkrānti by the *Siddhānta-Śirōmaṇi*.

(ii) *The shorter rule.* Take the *Ārya-Siddhānta* time of true Mēsha-saṁkrānti—the first process in (i). Add together the amounts gathered from Table LIII—the third process in (i)—and the number of minutes for the century in col. 5 of Table LII. Deduct the total from the *Ārya-Siddhānta* time of true Mēsha-saṁkrānti. The result gives the required time of true Mēsha-saṁkrānti by the *Siddhānta-Śirōmaṇi* with sufficient exactness for ordinary purposes.

263. Calculation for the correct tithi-index by the *Siddhānta-Śirōmaṇi* may for the present be considered as sufficiently carried out by work according to the *Ārya-Siddhānta*; there will often be a difference between the two. Correction of the equation (*see above*, § 247, ii, the *tithi*) may cause a difference of one unit in the tithi-index, and there may be a slight difference in consequence of a different mean anomaly value requiring the equation to be calculated from a different base-angle.

Construction of the Main-Table XLVIII C.

264. In order to conform to my similar Tables for the *Ārya-* and *Sārya-Siddhāntas* (*above*, Tables XLVIII A and B), I have worked for the year K.Y. 4500 expired, A.D. 1399-1400. The first thing was to fix the exact value of the sun's mean anomaly in that year at the moment of true Mēsha-saṁkrānti.

From Dr. Schram's fixture of the sun's equation of the centre by the *Siddhānta-Śirōmaṇi* at that moment in K.Y. 4000 as $2^\circ 8' 52'' 761328955$ and in K.Y. 5000 as $2^\circ 8' 59'' 319753357$ we find the equation in K.Y. 4500 to be $2^\circ 8' 56'' 040541156$, or, in 10,000ths of the circle, 59.091670842.

From Prof. Jacobi's determination of the position of the sun's apsis (I take perigee, not apogee) at that moment as $258^\circ 55' 12''$ in K.Y. 4000 and $259^\circ 12' 36''$ in K.Y. 5000 we find the perigee-point in K.Y. 4500 to be $259^\circ 3' 54''$, or in 10,000ths of the circle, 7196.250 (exact).

The sun's mean anomaly at any moment is 360° minus the longitude of perigee and the equation of the centre. This, using the above figures, gives us his mean anomaly at that moment in K.Y. 4500 as $98^\circ 47' 9''.959458844$ or, in decimals of a minute for purposes of calculation, $98^\circ 47' 165990981$; or, in 10,000ths of the circle, 2744.058329158 .

Tested by the sine-and-equation-Table (*above*, Tables XLVII and XLVIII) with use of the most accurate possible details (*for method see text* § 256, *above*) I find that the result of calculation from that amount of mean anomaly gives the sun's true longitude as exactly 360° down to four decimals of a second. The figures, then, are accurate for the moment of true Mēsha-samkrānti in K.Y. 4500.

The sun's mean longitude at any moment is his true longitude less the equation of the centre, here $360^\circ - 2^\circ 8' 56''.040541156$ or $357^\circ 51' 3''.959458844$, or, in 10,000ths, 9940.308329158 .

These figures are given for the moment of true Mēsha-samkrānti at the head of the main Table.

EXAMPLE.

265. An inscription is found the date of which is stated as "Śaka 1571, Virōdhin, Margaśira kṛishṇa 30, Sunday, (*nakshatra*) Uttara Ashāḍhā, 25 Dhanus."

Worked out by the Tables below for calculation by the *Siddhanta-Siromani* (Tables XLIV A-LX) the date is found to be perfectly sound. The resulting tithi-index ($t=9868.4370$ by calculation) proves that the tithi Mārgaś. kṛ. 30 was properly connected with Sunday, 23 December, A.D. 1649, which corresponded with the year Virōdhin, Śaka 1571 expired. That Sunday was the 357th day after January 1st. Work for the solar month and day shews that this Sunday, the 357th day after January 1st, was the 25th day of Dhanus.

But the value of the nakshatra-index, n , found in the course of calculation points to the true moon's place in the heavens at mean sunrise of that Sunday having been so close to the point of junction of two nakshatras that it is advisable to test the essential details as closely as possible.

The true sun's longitude, " s ," at mean sunrise of the 357th day after January 1st, is found by the present Table XLVIII C. The solar year began (Table LX, cols. 13-17) on the 86th day after January 1st at $9^h 32^m$ after mean sunrise. That was the moment of true Mēsha-samkrānti. $357-86=271$. For the purpose of the Table the Sunday in question was "Day 271" after true Mēsha-samkrānti.

Table XLVIII C shews that at $9^h 32^m$ after mean sunrise on Day 271 the sun's true long., in ten-thousandths of the circle, was 7365.9104. From this must be deducted the sun's true motion during 9 hours on Day 271 (Table XLIX *above*, p. 107) and 32 minutes (taken for convenience in mean motion by Table L, p. 108), respectively, 10.6500 and 0.6084, total 11.2584, $7365.9104-11.2584=7354.6520$. This was the value of " s " at mean sunrise of the given day.

The tithi-index, t , was found to be at the same moment 9868.4370; and since $s+t=n$, the index of the nakshatra, the value of " n " is found to be 7223.0890. Turning to Table XLVI *above* it is seen that by the equal-space division of the heavens the true moon was in the nakshatra Pūrva Ashāḍhā, but that by the systems of Garga and the Brahma-Siddhānta she was in Uttara Ashāḍhā, the former beginning at $72:2.2$ and the latter at 7137.2106 .

If the framers of an almanac computed it on the principles of the *Siddhanta-Siromani*, an authority of the Brāhma school of astronomy, they would naturally be supposed to follow the *Brahma-Siddhānta* system of nakshatras. Hence the date is proved to be correct in every particular.

NOTE.

The figures in the following Table are correct for K. Y. 4500, A.D. 1399-1400. In ordinary work for computation of the sun's true longitude ($^{\circ}$ & $'$ in the *Indian Calendar* system) they may be taken as applicable to all years during which the *Siddhānta-Śirōmaṇi* was in use.

But for very great accuracy in other calculations the figures are subject to the following alterations:—

(Cols. 2, 3, 4, 5).—Sun's mean anomaly and mean longitude. For every 100 years earlier than A.D. 1400 add (col. 2, 4) $1^{\circ} 45' 0558$, or (col. 3, 5) $0^{\circ} 8' 106$. For every 100 years later deduct the same.

(Cols. 6, 7).—Sun's equation of the centre. For every 100 years earlier than A.D. 1400 deduct (col. 6) $0^{\circ} 6' 558$, or (col. 7) $0^{\circ} 0' 51$. For every 100 years later add the same.

TABLE XLVIII-C.

ELEMENTS OF THE SUN'S LONGITUDE FOR THE HINDU SOLAR YEAR,

according to the **Siddhanta-Siromani**.

in periods of 24 hours each from the moment of the true *Mēsha-sankrānti*,
the astronomical beginning of the solar year.

(Exact for K. Y. 4500, A.D. 1399-1400. See Text §§ 260, 264.)

| Siddhanta-Siromani | | | | | | | | | | | | | | |
|---|-----|----------------------|-----------------------|---------|-------|---------------------------------|-----------|---------|---------------------------------------|----------------------|---------|---------|-------|----------------------|
| Sun's mean anomaly (or mean sun's distance from perigeo-point) ($^{\circ}C$). | | | Sun's mean longitude. | | | Sun's equation of the centre, + | | | Sun's true longitude ($^{\circ}S$). | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10,000ths of circle. | 11 | 12 | 13 | 14 | 15 |
| | 0 | 10,000ths of circle. | \odot | \circ | π | 10,000ths of circle. | \odot | \circ | π | 10,000ths of circle. | \odot | \circ | π | 10,000ths of circle. |
| (The sun's equation is +, plus, till his mean anomaly reaches 180° .) | | | | | | | | | | | | | | |
| At true <i>Mēsha-sankrānti</i> . | 98 | 47-16559 | 2744-6583 | 357 | 51 | 3-96 | 9940-3083 | 2 | 8 | 56-04 | 59-6977 | 369 | 0 | 0-9 |
| 1 | 99 | 46-30220 | 2771-4362 | 358 | 50 | 12-13 | 6967-6862 | 2 | 8 | 34-01 | 59-5217 | 0 | 58 | 46-14 |
| 2 | 100 | 45-42841 | 2798-8141 | 359 | 49 | 20-30 | 9995-0941 | 2 | 8 | 12-13 | 59-3529 | 1 | 57 | 32-44 |
| 3 | 101 | 44-57402 | 2826-1920 | 0 | 48 | 28-48 | 22-4429 | 2 | 7 | 45-29 | 59-1457 | 2 | 56 | 13-77 |
| 4 | 102 | 43-71083 | 2853-5698 | 1 | 47 | 36-65 | 40-8198 | 2 | 7 | 14-54 | 58-9065 | 3 | 54 | 51-10 |
| 5 | 103 | 42-84705 | 2880-9477 | 2 | 46 | 44-82 | 77-1977 | 2 | 6 | 43-79 | 58-6712 | 4 | 53 | 28-61 |
| 6 | 104 | 41-08326 | 2908-3256 | 3 | 45 | 53-00 | 104-5750 | 2 | 6 | 13-04 | 58-4330 | 5 | 52 | 6-03 |
| 7 | 105 | 41-11947 | 2935-7035 | 4 | 45 | 1-17 | 131-0335 | 2 | 5 | 37-36 | 58-1987 | 6 | 50 | 38-53 |
| 8 | 106 | 40-25568 | 2963-0813 | 5 | 44 | 9-34 | 159-3313 | 2 | 4 | 59-33 | 57-9575 | 7 | 49 | 7-67 |
| 9 | 107 | 39-39189 | 2990-4592 | 6 | 43 | 17-51 | 186-7692 | 2 | 4 | 19-30 | 57-5563 | 8 | 47 | 36-61 |
| 10 | 108 | 38-52810 | 3017-8371 | 7 | 42 | 25-69 | 214-0871 | 2 | 3 | 40-27 | 57-2352 | 9 | 46 | 5-06 |
| 11 | 109 | 37-66431 | 3045-2150 | 8 | 41 | 33-86 | 241-4650 | 2 | 2 | 54-31 | 56-9090 | 10 | 44 | 28-17 |
| 12 | 110 | 36-80052 | 3072-5928 | 9 | 40 | 42-03 | 268-8428 | 2 | 2 | 7-00 | 56-5353 | 11 | 42 | 40-04 |
| 13 | 111 | 35-93673 | 3099-9707 | 10 | 39 | 50-20 | 296-2207 | 2 | 1 | 10-70 | 56-1705 | 12 | 41 | 9-90 |
| 14 | 112 | 35-07294 | 3127-3486 | 11 | 38 | 58-38 | 323-5986 | 2 | 0 | 31-73 | 55-8004 | 13 | 39 | 30-11 |
| 15 | 113 | 34-20915 | 3154-7265 | 12 | 38 | 0-55 | 350-9765 | 1 | 59 | 36-14 | 55-3715 | 14 | 37 | 42-69 |

TABLE XLVIII. C—Contd.

Siddhanta-Sirāmaṇi.

| 24-hour periods from true Mēṣa-saṁkrānti. | Sun's mean anomaly for mean sun's distance from perigeo- point) ("C"). | | | Sun's mean longitude. | | | Sun's equation of the centre, + | | | Sun's true longitude ("S"). | | | | | |
|--|---|----------|-----------|-----------------------|----|-------|------------------------------------|---|----|--------------------------------|---------|----|----|-------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10,000ths of circle. | 11 | 12 | | | |
| | | | | | | | | | | | | | | | |
| | ° | ' | " | ° | ' | " | ° | ' | " | ° | ' | " | | | |
| 16 | 114 | 33-34537 | 3182-1043 | 13 | 37 | 14-72 | 378-3543 | 1 | 58 | 40-50 | 54-3426 | 15 | 35 | 55-28 | 433-2969 |
| 17 | 115 | 32-48158 | 3209-4822 | 14 | 36 | 22-89 | 408-7322 | 1 | 57 | 44-97 | 54-5130 | 16 | 34 | 7-80 | 460-2458 |
| 18 | 116 | 31-01770 | 3236-8601 | 15 | 35 | 31-07 | 433-1101 | 1 | 56 | 46-89 | 54-0655 | 17 | 32 | 17-05 | 487-1750 |
| 19 | 117 | 30-55400 | 3264-2380 | 16 | 34 | 39-24 | 460-4880 | 1 | 55 | 43-61 | 53-5772 | 18 | 30 | 22-85 | 514-0652 |
| 20 | 118 | 29-85021 | 3291-6158 | 17 | 33 | 47-41 | 487-8058 | 1 | 54 | 40-33 | 53-0800 | 19 | 28 | 27-75 | 540-0548 |
| 21 | 119 | 29-02642 | 3318-9937 | 18 | 32 | 55-59 | 515-2437 | 1 | 53 | 37-00 | 52-0068 | 20 | 26 | 32-64 | 567-8445 |
| 22 | 120 | 28-10263 | 3346-3716 | 19 | 32 | 3-76 | 543-6216 | 1 | 52 | 29-43 | 52-0789 | 21 | 24 | 33-18 | 594-7065 |
| 23 | 121 | 27-29884 | 3373-7495 | 20 | 31 | 11-93 | 569-0995 | 1 | 51 | 18-46 | 51-5314 | 22 | 22 | 30-39 | 621-5308 |
| 24 | 122 | 26-43505 | 3401-1273 | 21 | 30 | 20-10 | 597-3773 | 1 | 50 | 7-50 | 50-9838 | 23 | 20 | 27-00 | 648-3611 |
| 25 | 123 | 25-57126 | 3428-5052 | 22 | 29 | 28-28 | 624-7552 | 1 | 48 | 50-54 | 50-4362 | 24 | 18 | 24-81 | 675-1915 |
| 26 | 124 | 24-70747 | 3455-8831 | 23 | 28 | 36-45 | 652-1331 | 1 | 47 | 39-36 | 49-8407 | 25 | 16 | 15-80 | 701-0738 |
| 27 | 125 | 23-84368 | 3483-2610 | 24 | 27 | 44-62 | 679-5510 | 1 | 46 | 26-70 | 49-2338 | 26 | 14 | 5-33 | 728-7448 |
| 28 | 126 | 22-97990 | 3510-6388 | 25 | 26 | 52-79 | 706-8888 | 1 | 45 | 2-05 | 48-7200 | 27 | 11 | 54-85 | 755-5158 |
| 29 | 127 | 22-11611 | 3538-0167 | 26 | 26 | 0-97 | 734-2067 | 1 | 43 | 43-40 | 48-0201 | 28 | 9 | 44-37 | 782-2088 |
| 30 | 128 | 21-25232 | 3565-3946 | 27 | 25 | 9-14 | 761-6446 | 1 | 42 | 19-46 | 47-3724 | 29 | 7 | 28-60 | 809-0170 |
| 31 | 129 | 20-38853 | 3592-7725 | 28 | 24 | 17-31 | 789-0925 | 1 | 40 | 46-71 | 46-7108 | 30 | 5 | 11-03 | 835-7332 |
| 32 | 130 | 19-52474 | 3620-1503 | 29 | 23 | 25-48 | 816-4603 | 1 | 39 | 27-97 | 46-0491 | 31 | 2 | 53-45 | 862-4405 |
| 33 | 131 | 18-66095 | 3647-5282 | 30 | 22 | 33-66 | 843-7782 | 1 | 38 | 2-34 | 45-3885 | 32 | 0 | 36-00 | 889-1067 |
| 34 | 132 | 17-79716 | 3674-9061 | 31 | 21 | 41-83 | 871-1561 | 1 | 36 | 30-00 | 44-0760 | 32 | 58 | 11-02 | 915-8327 |
| 35 | 133 | 16-93337 | 3702-2840 | 32 | 20 | 50-00 | 898-5340 | 1 | 34 | 57-84 | 43-0648 | 33 | 55 | 47-84 | 942-4988 |
| 36 | 134 | 16-06958 | 3729-6618 | 33 | 19 | 58-18 | 925-9118 | 1 | 33 | 25-59 | 43-2530 | 34 | 53 | 23-78 | 969-1648 |
| 37 | 135 | 15-20579 | 3757-0397 | 34 | 19 | 6-35 | 953-2897 | 1 | 31 | 52-04 | 42-5311 | 35 | 50 | 58-38 | 995-8209 |
| 38 | 136 | 14-34201 | 3784-4176 | 35 | 18 | 14-52 | 980-6676 | 1 | 30 | 13-87 | 41-7737 | 36 | 48 | 28-39 | 1022-4413 |
| 39 | 137 | 13-47822 | 3811-7955 | 36 | 17 | 22-69 | 1008-0455 | 1 | 28 | 35-70 | 41-0162 | 37 | 45 | 58-40 | 1049-0017 |
| 40 | 138 | 12-61443 | 3839-1733 | 37 | 16 | 30-87 | 1035-4233 | 1 | 26 | 57-54 | 40-2588 | 38 | 43 | 28-40 | 1075-0821 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----|--------------|------------|-------------|-----------|------------|---------|-------------|-----------|
| 41 | 139 11-75084 | *3866-5312 | 38 15 39-04 | 1062-8012 | 1 25 16-64 | 39-4803 | 39 40 55-68 | 1102-2815 |
| 42 | 140 10-88685 | 3893-9291 | 39 14 47-21 | 1090-1791 | 1 23 32-56 | 38-6772 | 40 38 19-77 | 1128-8663 |
| 43 | 141 10-02209 | 3921-3070 | 40 13 55-38 | 1117-6570 | 1 21 48-48 | 37-8741 | 41 35 43-87 | 1155-4311 |
| 44 | 142 9-13927 | 3948-6848 | 41 13 3-56 | 1144-9348 | 1 20 4-40 | 37-0710 | 42 33 7-96 | 1182-0059 |
| 45 | 143 8-29548 | 3976-0637 | 42 12 11-73 | 1172-3127 | 1 18 16-53 | 36-2588 | 43 30 28-27 | 1208-5515 |
| 46 | 144 7-43169 | 4003-4405 | 43 11 19-90 | 1199-0305 | 1 16 27-14 | 35-3946 | 44 27 47-04 | 1235-0852 |
| 47 | 145 6-56790 | 4030-8185 | 44 10 28-07 | 1227-0685 | 1 14 37-74 | 34-5504 | 45 25 5-81 | 1261-6189 |
| 48 | 146 5-70412 | 4058-1963 | 45 9 36-25 | 1254-4463 | 1 12 48-34 | 33-7063 | 46 22 24-58 | 1288-1026 |
| 49 | 147 4-84033 | 4085-5742 | 46 8 44-42 | 1281-8242 | 1 10 54-36 | 32-8969 | 47 19 38-78 | 1314-6511 |
| 50 | 148 3-97654 | 4112-9521 | 47 7 52-50 | 1309-2021 | 1 9 0-23 | 31-9462 | 48 16 52-82 | 1341-1483 |
| 51 | 149 3-11275 | 4140-3300 | 48 7 0-76 | 1336-5800 | 1 7 6-10 | 31-0656 | 49 14 6-86 | 1367-6455 |
| 52 | 150 2-24896 | 4167-7079 | 49 6 8-94 | 1363-9579 | 1 5 10-98 | 30-1773 | 50 11 19-92 | 1394-1352 |
| 53 | 151 1-38517 | 4195-0857 | 50 5 17-11 | 1391-3357 | 1 3 12-12 | 29-2902 | 51 8 29-23 | 1420-5959 |
| 54 | 152 0-52138 | 4222-4636 | 51 4 25-28 | 1418-7136 | 1 1 13-25 | 28-3430 | 52 5 38-53 | 1447-0560 |
| 55 | 153 59-65759 | 4249-8415 | 52 3 33-46 | 1446-0915 | 0 59 14-39 | 27-4258 | 53 2 47-84 | 1473-5173 |
| 56 | 154 58-79380 | 4277-2194 | 53 2 41-63 | 1473-4694 | 0 57 13-53 | 26-4933 | 53 59 55-10 | 1499-9628 |
| 57 | 155 57-93001 | 4304-5972 | 54 1 49-80 | 1500-8472 | 0 55 10-53 | 25-5442 | 54 57 0-32 | 1526-3914 |
| 58 | 156 57-06522 | 4331-9751 | 55 0 6-15 | 1528-2251 | 0 53 7-32 | 24-5951 | 55 54 5-50 | 1552-8202 |
| 59 | 157 56-20244 | 4359-3530 | 56 0 6-15 | 1555-0030 | 0 51 4-52 | 23-6460 | 56 51 10-07 | 1579-2490 |
| 60 | 158 55-33865 | 4386-7309 | 56 59 14-32 | 1582-0809 | 0 49 1-56 | 22-6972 | 57 48 15-88 | 1605-6781 |
| 61 | 159 54-47486 | 4414-1087 | 57 58 22-49 | 1610-3587 | 0 46 50-19 | 21-7299 | 58 45 18-08 | 1632-0886 |
| 62 | 160 53-61107 | 4441-4866 | 58 57 30-66 | 1637-7366 | 0 44 50-82 | 20-7825 | 59 42 21-49 | 1658-4991 |
| 63 | 161 52-74728 | 4468-8645 | 59 56 38-84 | 1665-1145 | 0 42 45-45 | 19-7952 | 60 39 24-29 | 1684-9096 |
| 64 | 162 51-88349 | 4496-2424 | 60 55 47-01 | 1692-4924 | 0 40 36-54 | 18-8064 | 61 36 23-55 | 1711-2928 |
| 65 | 163 51-01970 | 4523-6202 | 61 54 55-18 | 1719-8702 | 0 38 27-62 | 17-8657 | 62 33 22-80 | 1737-6760 |
| 66 | 164 50-15591 | 4550-9981 | 62 54 3-35 | 1747-2481 | 0 36 18-70 | 16-8110 | 63 30 22-09 | 1764-0591 |
| 67 | 165 49-29212 | 4578-3760 | 63 53 11-53 | 1774-6260 | 0 34 9-70 | 15-8163 | 64 27 21-31 | 1790-4422 |
| 68 | 166 48-42833 | 4605-7539 | 64 52 19-70 | 1802-0039 | 0 31 59-71 | 14-8126 | 65 24 19-41 | 1816-8164 |
| 69 | 167 47-56454 | 4633-1317 | 65 51 27-87 | 1829-3817 | 0 29 48-43 | 13-7996 | 66 21 16-30 | 1843-1813 |
| 70 | 168 46-70076 | 4660-5096 | 66 50 36-05 | 1856-7596 | 0 27 37-15 | 12-7866 | 67 18 13-19 | 1869-5462 |
| 71 | 169 45-83697 | 4687-8875 | 67 49 44-22 | 1884-1375 | 0 25 26-51 | 11-7786 | 68 15 10-72 | 1895-9181 |
| 72 | 170 44-97318 | 4715-2654 | 68 48 52-39 | 1911-5154 | 0 23 13-45 | 10-7819 | 69 12 5-84 | 1922-2973 |
| 73 | 171 44-10939 | 4742-6432 | 69 48 0-56 | 1938-8932 | 0 21 0-39 | 9-7253 | 70 9 0-90 | 1948-6185 |
| 74 | 172 43-24550 | 4770-0211 | 70 47 8-74 | 1966-2711 | 0 18 47-34 | 8-6986 | 71 5 56-07 | 1974-9697 |
| 75 | 173 42-38181 | 4797-3990 | 71 46 10-01 | 1993-6490 | 0 16 34-62 | 7-6745 | 72 2 51-52 | 2001-3235 |

TABLE XLVIII-C—Contd.

Siddhanta-Sūtramaṇi.

| 34-hour periods from true Mīṇa-samkrānti. | Sun's mean anomaly (or mean sun's distance from perigeo- point) ($^{\circ} C''$). | | Sun's mean longitude. | | Sun's equation of the centre. + | | Sun's true longitude ($^{\circ} S''$). | |
|--|--|--------------|-------------------------|-------------|------------------------------------|------------|---|-----------|
| | 2 | | 3 | | 4 | | 5 | |
| | 0 | \circ | 0 | \circ | 0 | \circ | 0 | \circ |
| 1 | 10,000ths of circle. | | 10,000ths of circle. | | 10,000ths of circle. | | 10,000ths of circle. | |
| Sun in apogee | 76 | 173 41-51802 | 4824-7760 | 72 45 25-08 | 2021-0269 | 0 14 20-38 | 0-0387 | 2927-6050 |
| | 77 | 174 40-05423 | 4853-1547 | 73 44 33-25 | 2048-4047 | 0 12 0-14 | 5-6029 | 2954-0076 |
| | 78 | 175 39-70044 | 4879-5326 | 74 43 41-43 | 2075-7826 | 0 9 51-90 | 4-5671 | 2980-3497 |
| | 79 | 176 38-02065 | 4906-9105 | 75 42 49-60 | 2103-1605 | 0 7 37-95 | 3-5335 | 2106-6949 |
| | 80 | 177 38-06286 | 4934-2884 | 76 41 57-77 | 2130-5384 | 0 5 23-12 | 2-4932 | 2133-0315 |
| Sun in apogee | 81 | 178 37-19908 | 4961-6662 | 77 41 5-04 | 2157-9162 | 0 3 8-29 | 1-4528 | 2159-2691 |
| | 82 | 179 36-33529 | 4989-0441 | 78 40 14-12 | 2185-2941 | 0 0 53-46 | 0-4125 | 2185-7066 |
| | 180 | 0-0 | 5000 0 | 79 3 54-60 | 2195-3333 | 0 0 0-0 | 0-0 | 2195-3333 |
| Sun in apogee | 83 | 180 35-47150 | 5016-4220 | 79 39 22-20 | 2212-0720 | 0 1 20-88 | 0-6240 | 2212-0480 |
| | 84 | 181 34-00771 | 5043-7900 | 80 38 30-46 | 2240-0499 | 0 3 35-71 | 1-6544 | 2238-3855 |
| | 85 | 182 33-74392 | 5071-1777 | 81 37 38-64 | 2267-4277 | 0 5 50-54 | 2-7048 | 2264-7230 |
| | 86 | 183 32-88013 | 5098-5556 | 82 36 46-81 | 2294-8056 | 0 8 5-37 | 3-7451 | 2291-0605 |
| | 87 | 184 32-01634 | 5125-9335 | 83 35 54-98 | 2322-1840 | 0 10 19-23 | 4-7780 | 2317-4055 |
| Sun in apogee | 88 | 185 31-15255 | 5153-3114 | 84 35 3-15 | 2349-5614 | 0 12 33-47 | 5-8138 | 2343-7476 |
| | 89 | 186 30-28876 | 5180-6892 | 85 34 11-33 | 2376-9392 | 0 14 47-71 | 6-8499 | 2370-0897 |
| | 90 | 187 29-42497 | 5208-0671 | 86 33 19-50 | 2404-3171 | 0 17 1-94 | 7-8854 | 2396-4317 |
| | 91 | 188 28-56118 | 5235-4450 | 87 32 27-67 | 2431-6950 | 0 19 14-48 | 8-9081 | 2422-7809 |
| | 92 | 189 27-69740 | 5262-8229 | 88 31 35-84 | 2459-0729 | 0 21 27-54 | 9-9347 | 2449-1381 |
| Sun in apogee | 93 | 190 26-83361 | 5290-2007 | 89 30 44-02 | 2486-4507 | 0 23 40-60 | 10-9614 | 2475-4893 |
| | 94 | 191 25-96982 | 5317-5786 | 90 29 52-19 | 2513-8286 | 0 25 52-74 | 11-9810 | 2491-8476 |
| | 95 | 192 25-10603 | 5344-9565 | 91 29 0-36 | 2541-2065 | 0 28 4-02 | 12-9940 | 2528-2125 |
| | 96 | 193 24-24224 | 5372-3344 | 92 28 8-53 | 2568-5844 | 0 30 15-31 | 14-0070 | 2554-5774 |
| | 97 | 194 23-37845 | 5399-7122 | 93 27 16-71 | 2595-9622 | 0 32 26-59 | 15-0200 | 2580-9423 |

The sun's equation of the centre is —, minus, after his mean anomaly = 180° till it reaches 360°.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|---------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 98 | 195 122-51400 | 5427-0901 | 94 26 21-88 | 2923-3401 | 0 34 30-30 | 10-0209 | 93 51 48-58 | 2607-3193 |
| 99 | 196 121-85087 | 5434-4680 | 95 25 33-05 | 2950-7180 | 0 36 45-22 | 17-0156 | 94 48 47-83 | 2633-7024 |
| 100 | 197 120-78708 | 5481-8459 | 96 24 41-22 | 2978-0959 | 0 38 54-14 | 18-0103 | 95 45 47-09 | 2660-0855 |
| 101 | 198 119-92329 | 5509-2237 | 97 23 49-40 | 2705-4737 | 0 41 3-06 | 19-0051 | 96 42 46-34 | 2686-4087 |
| 102 | 199 119-05950 | 5536-6016 | 98 22 57-57 | 2732-8516 | 0 43 9-15 | 19-0780 | 97 39 48-42 | 2712-8736 |
| 103 | 200 18-10572 | 5593-8795 | 99 22 5-74 | 2760-2295 | 0 45 14-52 | 20-0454 | 98 36 51-22 | 2739-2841 |
| 104 | 201 17-33193 | 5591-3374 | 100 21 13-92 | 2787-6074 | 0 47 19-69 | 21-0127 | 99 33 54-03 | 2765-6947 |
| 105 | 202 16-40814 | 5618-7352 | 101 20 22-00 | 2814-0852 | 0 49 25-26 | 22-8801 | 100 30 56-83 | 2792-1052 |
| 106 | 203 15-60435 | 5646-1131 | 102 19 30-26 | 2842-3631 | 0 51 30-13 | 23-8435 | 101 28 0-13 | 2818-6195 |
| 107 | 204 14-74056 | 5673-4910 | 103 18 38-43 | 2869-7410 | 0 53 33-14 | 24-7927 | 102 25 5-30 | 2844-9483 |
| 108 | 205 13-87677 | 5700-8689 | 104 17 40-01 | 2897-1189 | 0 55 36-14 | 25-7418 | 103 22 10-47 | 2871-3770 |
| 109 | 206 13-01298 | 5728-2468 | 105 16 54-78 | 2924-4968 | 0 57 39-14 | 26-6909 | 104 19 15-03 | 2897-8058 |
| 110 | 207 12-14919 | 5755-6246 | 106 16 2-95 | 2951-8746 | 0 59 37-09 | 27-6010 | 105 16 25-86 | 2924-2736 |
| 111 | 208 11-28540 | 5783-0025 | 107 15 11-12 | 2979-2525 | 1 1 35-06 | 28-5182 | 106 13 35-17 | 2950-7343 |
| 112 | 209 10-42161 | 5810-3804 | 108 14 19-30 | 3006-6304 | 1 3 34-82 | 29-4353 | 107 10 44-48 | 2977-1960 |
| 113 | 210 9-56782 | 5837-7583 | 109 13 27-47 | 3034-0083 | 1 5 33-95 | 30-3545 | 108 7 53-52 | 3003-6537 |
| 114 | 211 8-69404 | 5865-1361 | 110 12 35-64 | 3061-3861 | 1 7 28-08 | 31-2352 | 109 5 7-56 | 3030-1509 |
| 115 | 212 7-83025 | 5892-5140 | 111 11 43-81 | 3088-7640 | 1 9 22-21 | 32-1158 | 110 2 21-60 | 3056-6482 |
| 116 | 213 6-96046 | 5919-8919 | 112 10 51-99 | 3116-1419 | 1 11 16-35 | 32-9965 | 110 59 35-64 | 3083-1454 |
| 117 | 214 6-10267 | 5947-2698 | 113 10 0-16 | 3143-5198 | 1 13 9-00 | 33-8703 | 111 56 50-56 | 3109-6404 |
| 118 | 215 5-23888 | 5974-6476 | 114 9 8-33 | 3170-8976 | 1 14 59-00 | 34-7145 | 112 54 9-34 | 3136-1831 |
| 119 | 216 4-37509 | 6002-0255 | 115 8 16-51 | 3198-2755 | 1 16 48-40 | 35-5580 | 113 51 28-11 | 3162-7169 |
| 120 | 217 3-51130 | 6029-4034 | 116 7 24-68 | 3225-6534 | 1 18 37-80 | 36-4028 | 114 48 46-88 | 3189-2506 |
| 121 | 218 2-64751 | 6056-7813 | 117 6 32-85 | 3253-0313 | 1 20 24-85 | 37-2258 | 115 46 8-00 | 3215-8025 |
| 122 | 219 1-78372 | 6084-1591 | 118 5 51-02 | 3280-4091 | 1 22 8-93 | 38-0319 | 116 43 32-10 | 3242-3773 |
| 123 | 220 0-91993 | 6111-5370 | 119 4 49-20 | 3307-7870 | 1 23 53-01 | 38-8349 | 117 40 56-19 | 3268-9521 |
| 124 | 221 0-05614 | 6138-9149 | 120 3 57-37 | 3335-1649 | 1 25 37-09 | 39-6380 | 118 38 20-28 | 3295-5269 |
| 125 | 221 59-19230 | 6166-2928 | 121 3 5-54 | 3362-5428 | 1 27 17-08 | 40-4096 | 119 35 48-46 | 3322-1332 |
| 126 | 222 58-32857 | 6193-6706 | 122 2 13-71 | 3389-9206 | 1 28 55-25 | 41-1670 | 120 33 18-47 | 3348-7586 |
| 127 | 223 57-40478 | 6221-0485 | 123 1 21-89 | 3417-2985 | 1 30 33-41 | 41-9245 | 121 30 48-47 | 3375-3740 |
| 128 | 224 56-50009 | 6248-4264 | 124 0 30-06 | 3444-6764 | 1 32 11-58 | 42-6819 | 122 28 18-48 | 3401-8944 |
| 129 | 225 55-73720 | 6276-8043 | 124 59 38-23 | 3472-0543 | 1 33 44-23 | 43-3968 | 123 25 51-00 | 3428-6574 |
| 130 | 226 54-87341 | 6303-1821 | 125 58 40-40 | 3499-4321 | 1 35 16-48 | 44-1086 | 124 23 29-02 | 3455-3235 |
| 131 | 227 54-00902 | 6330-5600 | 126 57 54-58 | 3526-8100 | 1 36 48-73 | 44-8205 | 125 21 5-84 | 3481-9895 |
| 132 | 228 53-14583 | 6357-9379 | 127 57 2-75 | 3554-1879 | 1 38 19-87 | 45-5237 | 126 18 42-88 | 3508-6642 |

TABLE XLVIII-C—Contd.

Siddhanta-Sirāmadī.

| 24-hour periods from true Mēśa-samkrānti. | Sun's mean anomaly (or mean sun's distance from perigee- point) ($^{\circ}$, $'$, $''$). | | | | Sun's mean longitude. | | | | Sun's equation of the centre. | | | | Sun's true longitude ($^{\circ}$, $'$, $''$). | | | |
|--|---|----------|------------|-------------------------|-----------------------|------------|-------|------------|-------------------------------|------------|-------|------------|--|-----|-------|-----------|
| | 2 | | 3 | 10,000ths of circle. | 4 | | 5 | 6 | | 7 | 8 | | 10,000ths of circle. | 9 | | |
| | $^{\circ}$ | $'$ | $^{\circ}$ | | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | $'$ | $^{\circ}$ | | $'$ | | |
| 133 | 229 | 52-28204 | 6385-3158 | | 128 | 50 | 10-02 | 3581-5958 | 1 | 39 | 45-01 | 46-1853 | 127 | 10 | 25-31 | 3355-3805 |
| 134 | 230 | 51-41825 | 6412-6936 | | 129 | 55 | 19-10 | 3608-9436 | 1 | 41 | 11-30 | 46-8469 | 128 | 14 | 7-73 | 3562-0907 |
| 135 | 231 | 50-55447 | 6440-0715 | | 130 | 54 | 27-27 | 3626-3215 | 1 | 42 | 37-11 | 47-5086 | 129 | 11 | 50-10 | 3588-8130 |
| 136 | 232 | 49-09068 | 6467-4494 | | 131 | 53 | 35-44 | 3663-6994 | 1 | 43 | 59-07 | 48-1479 | 130 | 9 | 35-47 | 3615-5515 |
| 137 | 233 | 48-82680 | 6494-8273 | | 132 | 52 | 43-01 | 3681-0773 | 1 | 45 | 18-02 | 48-7548 | 131 | 7 | 20-00 | 3642-3225 |
| 138 | 234 | 47-96310 | 6522-2051 | | 133 | 51 | 51-79 | 3718-4551 | 1 | 46 | 37-27 | 49-3016 | 132 | 5 | 14-52 | 3669-0935 |
| 139 | 235 | 47-09931 | 6549-5830 | | 134 | 50 | 59-96 | 3745-8330 | 1 | 47 | 55-02 | 49-9083 | 133 | 3 | 4-04 | 3695-8045 |
| 140 | 236 | 46-23552 | 6576-9609 | | 135 | 50 | 8-13 | 3773-2109 | 1 | 49 | 9-05 | 50-5374 | 134 | 0 | 58-48 | 3722-0735 |
| 141 | 237 | 45-37173 | 6604-3388 | | 136 | 49 | 16-30 | 3800-5888 | 1 | 50 | 20-01 | 51-0850 | 134 | 58 | 55-09 | 3749-5038 |
| 142 | 238 | 44-50794 | 6631-7166 | | 137 | 48 | 24-48 | 3827-9666 | 1 | 51 | 31-58 | 51-6325 | 135 | 56 | 52-09 | 3776-3241 |
| 143 | 239 | 43-64415 | 6659-0945 | | 138 | 47 | 32-05 | 3855-3445 | 1 | 52 | 42-54 | 52-1801 | 136 | 54 | 50-11 | 3803-1644 |
| 144 | 240 | 42-78036 | 6686-4724 | | 139 | 46 | 40-82 | 3882-7224 | 1 | 53 | 49-00 | 52-6929 | 137 | 52 | 51-82 | 3830-0295 |
| 145 | 241 | 41-91657 | 6713-8503 | | 140 | 45 | 48-99 | 3910-1003 | 1 | 54 | 52-27 | 53-1811 | 138 | 50 | 50-72 | 3856-9191 |
| 146 | 242 | 41-05279 | 6741-2281 | | 141 | 44 | 57-17 | 3937-4781 | 1 | 55 | 55-55 | 53-6094 | 139 | 49 | 1-62 | 3883-8088 |
| 147 | 243 | 40-19000 | 6768-6060 | | 142 | 44 | 5-34 | 3964-8560 | 1 | 56 | 58-83 | 54-1579 | 140 | 47 | 0-51 | 3910-0984 |
| 148 | 244 | 39-32521 | 6795-9839 | | 143 | 43 | 13-51 | 3992-2339 | 1 | 57 | 55-73 | 54-5907 | 141 | 45 | 17-78 | 3937-0372 |
| 149 | 245 | 38-46142 | 6823-3618 | | 144 | 42 | 21-69 | 4019-6118 | 1 | 58 | 51-32 | 55-0250 | 142 | 43 | 30-36 | 3964-5862 |
| 150 | 246 | 37-59763 | 6850-7396 | | 145 | 41 | 29-86 | 4046-9896 | 1 | 59 | 46-91 | 55-4545 | 143 | 41 | 42-95 | 3991-5351 |
| 151 | 247 | 36-73384 | 6878-1175 | | 146 | 40 | 38-03 | 4074-3675 | 2 | 0 | 41-89 | 55-8788 | 144 | 39 | 56-14 | 4018-4888 |
| 152 | 248 | 35-87005 | 6905-4954 | | 147 | 39 | 46-20 | 4101-7454 | 2 | 1 | 29-20 | 56-2438 | 145 | 38 | 17-01 | 4045-5010 |
| 153 | 249 | 35-00626 | 6932-8733 | | 148 | 38 | 54-38 | 4129-1233 | 2 | 2 | 16-51 | 56-6088 | 146 | 36 | 37-87 | 4072-5144 |
| 154 | 250 | 34-14247 | 6960-2511 | | 149 | 38 | 2-55 | 4156-5011 | 2 | 3 | 3-81 | 56-9739 | 147 | 34 | 58-73 | 4099-5273 |
| 155 | 251 | 33-27868 | 6987-6290 | | 150 | 37 | 10-72 | 4183-8790 | 2 | 3 | 48-51 | 57-3187 | 148 | 33 | 22-21 | 4126-5993 |
| 156 | 252 | 32-41489 | 7015-0069 | | 151 | 36 | 18-89 | 4211-2569 | 2 | 4 | 27-54 | 57-6199 | 149 | 31 | 51-36 | 4153-6370 |
| 157 | 253 | 31-55111 | 7042-3848 | | 152 | 35 | 27-07 | 4238-6348 | 2 | 5 | 6-57 | 57-9211 | 150 | 30 | 20-50 | 4180-7137 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|-----|-----|-----------|--------|-------|------|-------|--------|-------|-----------|
| 158 | 254 | 7009-7030 | 153 34 | 35-24 | 2 5 | 45-60 | 151 28 | 49-04 | 4207-7904 |
| 159 | 255 | 7097-1405 | 154 33 | 43-41 | 2 6 | 50-01 | 152 27 | 23-40 | 4234-9028 |
| 160 | 256 | 7124-6184 | 155 32 | 51-58 | 2 6 | 59-76 | 153 26 | 0-83 | 4262-0434 |
| 161 | 257 | 7151-8963 | 156 31 | 59-76 | 2 7 | 21-51 | 154 24 | 38-25 | 4289-1840 |
| 162 | 258 | 7179-2741 | 157 31 | 7-03 | 2 7 | 52-20 | 155 23 | 15-07 | 4310-3246 |
| 163 | 259 | 7200-6520 | 158 30 | 16-10 | 2 8 | 15-07 | 156 22 | 0-13 | 4343-5105 |
| 164 | 260 | 7234-0290 | 159 29 | 24-27 | 2 8 | 37-85 | 157 20 | 46-42 | 4370-7286 |
| 165 | 261 | 7261-4078 | 160 28 | 32-45 | 2 8 | 59-73 | 158 19 | 32-71 | 4397-9376 |
| 166 | 262 | 7288-7856 | 161 27 | 40-62 | 2 9 | 21-61 | 159 18 | 19-01 | 4425-1497 |
| 167 | 263 | 7316-1635 | 162 26 | 48-79 | 2 9 | 36-59 | 160 17 | 12-21 | 4452-4090 |
| 168 | 264 | 7343-5414 | 163 25 | 56-97 | 2 9 | 49-00 | 161 16 | 7-37 | 4479-6805 |
| 169 | 265 | 7370-9193 | 164 25 | 5-14 | 2 10 | 2-61 | 162 15 | 2-53 | 4506-9640 |
| 170 | 266 | 7398-2972 | 165 24 | 13-31 | 2 10 | 15-43 | 163 13 | 57-88 | 4534-2429 |
| 171 | 267 | 7425-6750 | 166 23 | 21-48 | 2 10 | 19-57 | 164 13 | 1-02 | 4561-5880 |
| 172 | 268 | 7453-0529 | 167 22 | 29-66 | 2 10 | 23-71 | 165 12 | 5-95 | 4588-9348 |
| 173 | 269 | 7480-4308 | 168 21 | 37-83 | 2 10 | 27-85 | 166 11 | 9-08 | 4610-2807 |
| 174 | 270 | 7507-8087 | 169 20 | 46-00 | 2 10 | 29-82 | 167 10 | 16-18 | 4643-6434 |
| 175 | 271 | 7535-1865 | 170 19 | 54-17 | 2 10 | 25-68 | 168 9 | 28-49 | 4671-0532 |
| 176 | 272 | 7562-5644 | 171 19 | 2-35 | 2 10 | 21-54 | 169 8 | 40-81 | 4698-4630 |
| 177 | 273 | 7589-9423 | 172 18 | 10-52 | 2 10 | 17-40 | 170 7 | 53-12 | 4725-8728 |
| 178 | 274 | 7617-3202 | 173 17 | 18-69 | 2 10 | 8-81 | 171 7 | 9-89 | 4753-3170 |
| 179 | 275 | 7644-6980 | 174 16 | 26-86 | 2 9 | 55-80 | 172 6 | 31-07 | 4780-7953 |
| 180 | 276 | 7672-0759 | 175 15 | 35-04 | 2 9 | 42-79 | 173 5 | 52-25 | 4808-2736 |
| 181 | 277 | 7699-4538 | 176 14 | 43-21 | 2 9 | 29-78 | 174 5 | 13-43 | 4835-7518 |
| 182 | 278 | 7726-8317 | 177 13 | 51-38 | 2 9 | 10-16 | 175 4 | 41-22 | 4863-2810 |
| 183 | 279 | 7754-2095 | 178 12 | 59-56 | 2 8 | 48-28 | 176 4 | 11-28 | 4890-8277 |
| 184 | 280 | 7781-5874 | 179 12 | 7-73 | 2 8 | 26-46 | 177 3 | 41-33 | 4918-3744 |
| 185 | 281 | 7808-9653 | 180 11 | 15-90 | 2 8 | 4-52 | 178 3 | 11-38 | 4945-9212 |
| 186 | 282 | 7836-3432 | 181 10 | 24-07 | 2 7 | 33-89 | 179 2 | 50-19 | 4973-0354 |
| 187 | 283 | 7863-7210 | 182 9 | 32-25 | 2 7 | 3-14 | 180 2 | 29-11 | 5001-1503 |
| 188 | 284 | 7891-0989 | 183 8 | 0-42 | 2 6 | 32-38 | 181 2 | 8-03 | 5028-7657 |
| 189 | 285 | 7918-4768 | 184 7 | 8-59 | 2 6 | 1-02 | 182 1 | 46-67 | 5056-3786 |
| 190 | 286 | 7945-8547 | 185 6 | 56-76 | 2 5 | 22-89 | 183 1 | 33-87 | 5084-0577 |
| 191 | 287 | 7973-2325 | 186 6 | 4-94 | 2 4 | 43-80 | 184 1 | 21-08 | 5111-7367 |
| 192 | 288 | 8000-6104 | 187 5 | 13-11 | 2 4 | 4-83 | 185 1 | 8-28 | 5139-4157 |

TABLE XLVIII-C—Contd.

| 24-hour periods from true Maha-samkranti. | | Sun's mean anomaly for mean sun's distance from perigee- point) ($^{\circ} C^{\circ}$). | | | Sun's mean longitude, — | | | Sun's equation of the centre — | | | Sun's true longitude, ($^{\circ} S^{\circ}$). | | | Siddhanta-Siramantri. | |
|--|-----|--|-----------|-----|----------------------------|-------|-----------|-----------------------------------|-------------------------|-------|--|-----|----|-----------------------|-----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10,000ths of circle. | 11 | 12 | 13 | 14 | 15 | |
| | | | | | | | | | | | | | | | |
| 193 | 289 | 0-45470 | 8027-9583 | 188 | 4 | 21-28 | 5294-2383 | 2 | 3 | 24-08 | 57-1303 | 180 | 0 | 57-20 | 5107-1080 |
| 194 | 289 | 59-59000 | 8055-3002 | 189 | 3 | 29-45 | 5251-0102 | 2 | 2 | 36-77 | 56-7052 | 187 | 0 | 52-08 | 5194-8509 |
| 195 | 290 | 58-72712 | 8082-7440 | 190 | 2 | 37-03 | 5278-9940 | 2 | 1 | 40-04 | 56-4002 | 188 | 0 | 48-10 | 5222-0939 |
| 196 | 291 | 57-86333 | 8110-1219 | 191 | 1 | 45-80 | 5306-3719 | 2 | 1 | 2-15 | 56-0351 | 189 | 0 | 43-05 | 5250-3268 |
| 197 | 292 | 56-99954 | 8137-4998 | 192 | 0 | 53-07 | 5333-7498 | 2 | 0 | 11-12 | 55-6414 | 190 | 0 | 42-85 | 5278-1084 |
| 198 | 293 | 56-13575 | 8164-8777 | 193 | 0 | 2-15 | 5361-1277 | 1 | 59 | 15-53 | 55-2124 | 191 | 0 | 46-01 | 5305-9152 |
| 199 | 294 | 55-27196 | 8192-2555 | 193 | 59 | 10-32 | 5388-5055 | 1 | 58 | 19-04 | 54-7835 | 192 | 0 | 50-37 | 5333-7220 |
| 200 | 295 | 54-40817 | 8219-6334 | 194 | 58 | 18-49 | 5415-8834 | 1 | 57 | 24-30 | 54-3546 | 193 | 0 | 54-13 | 5371-5288 |
| 201 | 296 | 53-54439 | 8247-0113 | 195 | 57 | 20-06 | 5443-2613 | 1 | 56 | 23-42 | 53-8844 | 194 | 1 | 3-24 | 5389-3708 |
| 202 | 297 | 52-68060 | 8274-3892 | 196 | 56 | 34-84 | 5470-6392 | 1 | 55 | 20-15 | 53-3902 | 195 | 1 | 14-09 | 5417-2430 |
| 203 | 298 | 51-81681 | 8301-7670 | 197 | 55 | 43-01 | 5498-0170 | 1 | 54 | 16-87 | 52-0080 | 196 | 1 | 26-14 | 5445-1001 |
| 204 | 299 | 50-95302 | 8329-1449 | 198 | 54 | 51-18 | 5525-3949 | 1 | 53 | 13-00 | 52-4197 | 197 | 1 | 37-58 | 5472-0752 |
| 205 | 300 | 50-08923 | 8356-5228 | 199 | 53 | 59-35 | 5552-7728 | 1 | 52 | 3-12 | 51-8759 | 198 | 1 | 50-24 | 5500-8969 |
| 206 | 301 | 49-22544 | 8383-9007 | 200 | 53 | 7-53 | 5580-1507 | 1 | 50 | 52-15 | 51-3283 | 199 | 2 | 15-37 | 5528-8223 |
| 207 | 302 | 48-36165 | 8411-2785 | 201 | 52 | 15-70 | 5607-5285 | 1 | 49 | 41-10 | 50-7808 | 200 | 2 | 34-51 | 5556-7478 |
| 208 | 303 | 47-49786 | 8438-6564 | 202 | 51 | 23-87 | 5634-9064 | 1 | 48 | 28-84 | 50-2236 | 201 | 2 | 55-03 | 5584-6830 |
| 209 | 304 | 46-63407 | 8466-0343 | 203 | 50 | 32-04 | 5662-2843 | 1 | 47 | 10-19 | 49-6157 | 202 | 3 | 21-85 | 5612-6086 |
| 210 | 305 | 45-77028 | 8493-4122 | 204 | 49 | 40-22 | 5689-6622 | 1 | 45 | 51-54 | 49-0688 | 203 | 3 | 48-67 | 5640-5334 |
| 211 | 306 | 44-90649 | 8520-7900 | 205 | 48 | 48-39 | 5717-0400 | 1 | 44 | 32-89 | 48-4019 | 204 | 4 | 15-50 | 5668-6381 |
| 212 | 307 | 44-04271 | 8548-1679 | 206 | 47 | 56-56 | 5744-4179 | 1 | 43 | 13-42 | 47-7887 | 205 | 4 | 43-15 | 5696-6292 |
| 213 | 308 | 43-17892 | 8575-5458 | 207 | 47 | 4-74 | 5771-7958 | 1 | 41 | 47-07 | 47-1271 | 206 | 5 | 17-17 | 5724-6087 |
| 214 | 309 | 42-31513 | 8602-9237 | 208 | 46 | 12-01 | 5799-1737 | 1 | 40 | 21-02 | 46-4054 | 207 | 5 | 50-09 | 5752-7082 |
| 215 | 310 | 41-45134 | 8630-3016 | 209 | 45 | 21-08 | 5826-5515 | 1 | 38 | 56-17 | 45-8938 | 208 | 6 | 24-91 | 5780-7477 |
| 216 | 311 | 40-58755 | 8657-6794 | 210 | 44 | 29-25 | 5853-9294 | 1 | 37 | 28-14 | 45-1345 | 209 | 7 | 1-11 | 5808-8049 |
| 217 | 312 | 39-72376 | 8685-0573 | 211 | 43 | 37-43 | 5881-3073 | 1 | 35 | 55-49 | 44-4127 | 210 | 7 | 41-54 | 5836-8946 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | |
|-----|-----|----------|-----|----|-------|---|----|-------|---------|-----|----|-------|-----------|
| 218 | 313 | 38-85997 | 212 | 42 | 45-60 | 1 | 34 | 25-03 | 43-7009 | 211 | 8 | 21-46 | 5864-0843 |
| 219 | 314 | 37-00618 | 213 | 41 | 53-77 | 1 | 32 | 51-38 | 42-0891 | 212 | 9 | 2-39 | 5893-0740 |
| 220 | 315 | 37-13239 | 214 | 41 | 1-94 | 1 | 21 | 15-64 | 42-2503 | 213 | 9 | 40-31 | 5921-1006 |
| 221 | 316 | 36-26860 | 215 | 40 | 10-12 | 1 | 20 | 37-47 | 41-4928 | 214 | 10 | 32-64 | 5949-3290 |
| 222 | 317 | 35-40482 | 216 | 39 | 18-20 | 1 | 27 | 50-31 | 40-7354 | 215 | 11 | 18-08 | 5977-4613 |
| 223 | 318 | 34-54103 | 217 | 38 | 26-46 | 1 | 26 | 21-14 | 39-9779 | 216 | 12 | 5-32 | 6005-5066 |
| 224 | 319 | 33-67724 | 218 | 37 | 34-03 | 1 | 24 | 38-05 | 39-1825 | 217 | 12 | 56-58 | 6033-7699 |
| 225 | 320 | 32-81345 | 219 | 36 | 42-81 | 1 | 22 | 53-97 | 38-3794 | 218 | 13 | 48-84 | 6061-0509 |
| 226 | 321 | 31-94966 | 220 | 35 | 50-98 | 1 | 21 | 9-89 | 37-5763 | 219 | 14 | 41-09 | 6090-1319 |
| 227 | 322 | 31-08587 | 221 | 34 | 59-15 | 1 | 19 | 25-38 | 36-7699 | 220 | 15 | 33-77 | 6118-3161 |
| 228 | 323 | 30-22308 | 222 | 34 | 7-32 | 1 | 17 | 35-98 | 35-9258 | 221 | 16 | 31-35 | 6146-5382 |
| 229 | 324 | 29-35829 | 223 | 33 | 15-50 | 1 | 15 | 46-58 | 35-0816 | 222 | 17 | 28-92 | 6174-7602 |
| 230 | 325 | 28-49450 | 224 | 32 | 23-67 | 1 | 13 | 57-17 | 34-2373 | 223 | 18 | 26-50 | 6202-9822 |
| 231 | 326 | 27-63071 | 225 | 31 | 31-84 | 1 | 12 | 0-18 | 33-3810 | 224 | 19 | 25-06 | 6231-2165 |
| 232 | 327 | 26-76692 | 226 | 30 | 40-02 | 1 | 10 | 12-05 | 32-5094 | 225 | 20 | 27-97 | 6259-4751 |
| 233 | 328 | 25-90314 | 227 | 29 | 48-19 | 1 | 8 | 17-91 | 31-6197 | 226 | 21 | 30-27 | 6287-7336 |
| 234 | 329 | 25-03935 | 228 | 28 | 56-36 | 1 | 6 | 23-78 | 30-7390 | 227 | 22 | 32-58 | 6315-9921 |
| 235 | 330 | 24-17556 | 229 | 28 | 4-53 | 1 | 4 | 26-01 | 29-8372 | 228 | 23 | 37-03 | 6344-2718 |
| 236 | 331 | 23-31177 | 230 | 27 | 12-71 | 1 | 2 | 28-04 | 28-9201 | 229 | 24 | 44-65 | 6372-5668 |
| 237 | 332 | 22-44798 | 231 | 26 | 20-88 | 1 | 0 | 29-18 | 28-0029 | 230 | 25 | 51-70 | 6400-8619 |
| 238 | 333 | 21-58419 | 232 | 25 | 29-05 | 0 | 58 | 30-32 | 27-0858 | 231 | 26 | 58-74 | 6429-1569 |
| 239 | 334 | 20-72040 | 233 | 24 | 37-22 | 0 | 56 | 27-92 | 26-1414 | 232 | 28 | 9-30 | 6457-4752 |
| 240 | 335 | 19-85661 | 234 | 23 | 45-40 | 0 | 54 | 24-92 | 25-1923 | 233 | 29 | 20-48 | 6485-8001 |
| 241 | 336 | 18-99282 | 235 | 22 | 53-57 | 0 | 52 | 21-92 | 24-2432 | 234 | 30 | 31-65 | 6514-1331 |
| 242 | 337 | 18-12903 | 236 | 22 | 1-74 | 0 | 50 | 18-91 | 23-2933 | 235 | 31 | 42-83 | 6542-4908 |
| 243 | 338 | 17-26524 | 237 | 21 | 9-91 | 0 | 48 | 15-08 | 22-3385 | 236 | 32 | 54-81 | 6570-7935 |
| 244 | 339 | 16-40146 | 238 | 20 | 18-09 | 0 | 46 | 9-71 | 21-3712 | 237 | 34 | 8-38 | 6599-1387 |
| 245 | 340 | 15-53797 | 239 | 19 | 26-26 | 0 | 44 | 4-34 | 20-4038 | 238 | 35 | 21-92 | 6627-4840 |
| 246 | 341 | 14-67388 | 240 | 18 | 34-43 | 0 | 41 | 58-97 | 19-4365 | 239 | 36 | 35-46 | 6655-8292 |
| 247 | 342 | 13-81009 | 241 | 17 | 42-61 | 0 | 39 | 48-74 | 18-4316 | 240 | 37 | 53-87 | 6684-2119 |
| 248 | 343 | 12-94630 | 242 | 16 | 50-78 | 0 | 37 | 39-82 | 17-4309 | 241 | 39 | 10-90 | 6721-5845 |
| 249 | 344 | 12-08251 | 243 | 15 | 58-95 | 0 | 35 | 30-90 | 16-4422 | 242 | 40 | 28-05 | 6740-9571 |
| 250 | 345 | 11-21872 | 244 | 15 | 7-12 | 0 | 33 | 22-32 | 15-4500 | 243 | 41 | 44-81 | 6769-3272 |
| 251 | 346 | 10-35493 | 245 | 14 | 15-30 | 0 | 31 | 11-03 | 14-4370 | 244 | 43 | 4-26 | 6797-7181 |
| 252 | 347 | 9-49114 | 246 | 13 | 23-47 | 0 | 28 | 59-75 | 13-4240 | 245 | 44 | 23-72 | 6826-1089 |

TABLE XLVIII-C—Contd.

| 24-hour periods from true Mīchā-samkrānti. | Siddhanta-Sūramani. | | | | | | | | | |
|---|---|-------------------------------|-------------------------|-------------------------------|-------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------|--|
| | Sun's mean anomaly (or mean sun's distance from perigeo- point) ($^{\circ} \text{ } e^{\circ}$). | | | Sun's mean longitude. | | | Sun's equation of the centre. | | | Sun's true longitude ($^{\circ} \text{ } s^{\circ}$). |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| | | $^{\circ} \text{ } e^{\circ}$ | 10,000ths of circle. | $^{\circ} \text{ } s^{\circ}$ | 10,000ths of circle. | $^{\circ} \text{ } s^{\circ}$ | 10,000ths of circle. | $^{\circ} \text{ } s^{\circ}$ | 10,000ths of circle. | |
| 253 | 348 | 8-62735 | 9670-6608 | 247 12 31-64 | 6806-9108 | 0 26 48-47 | 12-4110 | 246 45 43-17 | 6354-4098 | |
| 254 | 349 | 7-76356 | 9698-0387 | 248 11 39-81 | 6894-2887 | 0 24 37-17 | 11-3979 | 247 47 2-64 | 6882-8008 | |
| 255 | 350 | 6-89976 | 9725-4160 | 249 10 47-99 | 6921-6600 | 0 22 24-11 | 10-3713 | 248 48 23-87 | 6911-2933 | |
| 256 | 351 | 6-03599 | 9752-7944 | 250 9 56-16 | 6949-0444 | 0 20 11-06 | 9-3446 | 249 49 43-10 | 6939-6999 | |
| 257 | 352 | 5-17220 | 9780-1723 | 251 9 4-33 | 6976-4223 | 0 17 58-00 | 8-3179 | 250 51 0-33 | 6968-1644 | |
| 258 | 353 | 4-30841 | 9807-5502 | 252 8 12-50 | 7003-8002 | 0 15 44-84 | 7-2904 | 251 52 26-66 | 6996-5697 | |
| 259 | 354 | 3-44462 | 9834-9281 | 253 7 20-68 | 7031-1781 | 0 13 30-60 | 6-2547 | 252 53 50-07 | 7024-9934 | |
| 260 | 355 | 2-58083 | 9862-3059 | 254 6 28-85 | 7058-5559 | 0 11 16-36 | 5-2180 | 253 55 12-40 | 7053-3371 | |
| 261 | 356 | 1-71704 | 9889-6838 | 255 5 37-02 | 7085-9338 | 0 9 2-12 | 4-1831 | 254 56 24-90 | 7081-7508 | |
| 262 | 357 | 0-85325 | 9917-0617 | 256 4 45-20 | 7113-3117 | 0 6 47-95 | 3-1478 | 255 57 57-24 | 7110-1639 | |
| 263 | 357 | 59-96946 | 9944-4396 | 257 3 53-37 | 7140-6896 | 0 4 33-12 | 2-1674 | 256 59 20-24 | 7138-5821 | |
| 264 | 358 | 59-12567 | 9971-8174 | 258 3 1-54 | 7168-0674 | 0 2 18-39 | 1-0671 | 258 0 43-25 | 7167-0604 | |
| 265 | 359 | 58-26188 | 9999-1953 | 259 2 0-71 | 7195-4453 | 0 0 3-40 | 0-0297 | 259 2 0-25 | 7195-4186 | |
| Sun in perigeo | 360 | 0-0 | 10000-0 | 259 3 54-00 | 7195-8323 | 0 0 0-0 | 0-0 | 259 3 54-00 | 7195-8323 | |
| | | | | | | | | | | |
| (The sun's equation of the centre is +, plus, after his mean anomaly=360°, till it reaches 180°). | | | | | | | | | | |
| 266 | 0 | 57-39810 | 26-5732 | 260 1 17-89 | 7222-8232 | 0 2 10-57 | 1-0098 | 260 3 38-75 | 7223-8330 | |
| 267 | 1 | 56-53431 | 53-0511 | 261 0 26-03 | 7250-2011 | 0 4 25-70 | 2-0501 | 261 4 51-76 | 7252-2512 | |
| 268 | 2 | 55-67052 | 81-3289 | 261 59 34-23 | 7277-5789 | 0 6 40-53 | 3-0905 | 262 6 14-70 | 7280-0694 | |
| 269 | 3 | 54-80673 | 108-7068 | 262 58 42-40 | 7304-9568 | 0 8 54-70 | 4-1262 | 263 7 37-10 | 7309-0831 | |
| 270 | 4 | 53-94294 | 136-0847 | 263 57 50-58 | 7332-2347 | 0 11 9-00 | 5-1620 | 264 8 59-58 | 7337-4967 | |
| 271 | 5 | 53-07915 | 163-4626 | 264 56 58-75 | 7359-7126 | 0 13 23-24 | 6-1078 | 265 10 21-99 | 7365-9104 | |
| 272 | 6 | 52-21536 | 190-8404 | 265 55 6-92 | 7387-0904 | 0 15 37-48 | 7-2336 | 266 11 44-40 | 7394-3241 | |
| 273 | 7 | 51-35157 | 218-2183 | 266 55 15-09 | 7414-4683 | 0 17 50-76 | 8-2621 | 267 13 5-80 | 7422-7304 | |
| 274 | 8 | 50-48778 | 245-5962 | 267 54 23-27 | 7441-8462 | 0 20 3-82 | 9-2887 | 268 14 27-09 | 7451-1349 | |
| 275 | 9 | 49-62399 | 272-9741 | 268 53 31-44 | 7469-2241 | 0 22 16-88 | 10-3154 | 269 15 48-32 | 7479-5395 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|-------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 276 | 10 48-76020 | 300-3519 | 259 52 39-61 | 7496-6010 | 0 24 29-03 | 11-3421 | 270 17 0-54 | 7507-0440 |
| 277 | 11 47-80042 | 327-7298 | 270 51 47-78 | 7523-0708 | 0 26 41-42 | 12-3560 | 271 18 29-20 | 7536-3304 |
| 278 | 12 47-03263 | 335-1077 | 271 50 55-98 | 7551-3577 | 0 28 52-70 | 13-3006 | 272 19 48-66 | 7564-7273 |
| 279 | 13 46-16884 | 382-4856 | 272 50 4-13 | 7578-7356 | 0 31 3-08 | 14-3830 | 273 21 8-11 | 7593-1182 |
| 280 | 14 45-30505 | 409-8634 | 273 49 12-30 | 7606-1134 | 0 33 15-27 | 15-3956 | 274 22 27-57 | 7621-5090 |
| 281 | 15 44-44126 | 437-3413 | 274 48 20-48 | 7633-4913 | 0 35 24-10 | 16-3897 | 275 23 44-58 | 7649-8810 |
| 282 | 16 43-57747 | 464-0162 | 275 47 28-65 | 7660-8092 | 0 37 33-02 | 17-3844 | 276 25 1-07 | 7678-2536 |
| 283 | 17 42-71368 | 491-9971 | 276 46 36-82 | 7688-2471 | 0 39 41-94 | 18-3792 | 277 26 18-76 | 7706-6202 |
| 284 | 18 41-84989 | 519-3750 | 277 45 44-69 | 7715-6250 | 0 41 50-85 | 19-3739 | 278 27 35-85 | 7734-9988 |
| 285 | 19 40-08610 | 546-7528 | 278 44 53-17 | 7743-0628 | 0 43 55-03 | 20-3367 | 279 28 48-80 | 7763-3395 |
| 286 | 20 40-12231 | 574-1307 | 279 44 1-34 | 7770-3807 | 0 46 1-00 | 21-3040 | 280 30 2-34 | 7791-6847 |
| 287 | 21 39-25852 | 601-5086 | 280 43 9-31 | 7797-7586 | 0 48 6-37 | 22-2714 | 281 31 15-88 | 7820-0300 |
| 288 | 22 38-39474 | 628-8865 | 281 42 17-68 | 7825-1365 | 0 50 12-74 | 23-2464 | 282 32 30-42 | 7848-3829 |
| 289 | 23 37-53095 | 656-2643 | 282 41 25-86 | 7852-5143 | 0 52 15-74 | 24-1035 | 283 33 41-60 | 7876-7099 |
| 290 | 24 36-66716 | 683-0422 | 283 40 34-03 | 7879-8022 | 0 54 18-75 | 25-1439 | 284 34 52-77 | 7905-0308 |
| 291 | 25 35-80337 | 711-0201 | 284 39 42-30 | 7907-2701 | 0 56 21-75 | 26-0937 | 285 36 3-95 | 7933-3638 |
| 292 | 26 34-93958 | 738-3980 | 285 38 50-37 | 7934-6480 | 0 58 22-30 | 27-0239 | 286 37 12-68 | 7961-6719 |
| 293 | 27 34-07579 | 765-7758 | 286 37 58-55 | 7962-0258 | 1 0 21-10 | 27-9411 | 287 38 19-71 | 7989-9606 |
| 294 | 28 33-21200 | 793-1537 | 287 37 6-72 | 7989-4037 | 1 2 20-03 | 28-8582 | 288 39 26-75 | 8018-2619 |
| 295 | 29 32-34821 | 820-5316 | 288 36 14-89 | 8016-7816 | 1 4 18-89 | 29-7754 | 289 40 33-78 | 8046-5570 |
| 296 | 30 31-48442 | 847-9005 | 289 35 23-07 | 8044-1595 | 1 6 16-26 | 30-6811 | 290 41 39-33 | 8074-8465 |
| 297 | 31 30-62063 | 875-2873 | 290 34 31-24 | 8071-5373 | 1 8 10-40 | 31-5917 | 291 42 41-64 | 8103-0990 |
| 298 | 32 29-75684 | 902-6652 | 291 33 39-41 | 8098-9152 | 1 10 4-53 | 32-4424 | 292 43 43-94 | 8131-3576 |
| 299 | 33 28-89306 | 930-0431 | 292 32 47-58 | 8126-2931 | 1 11 58-06 | 33-3250 | 293 44 46-25 | 8159-6161 |
| 300 | 34 28-02927 | 957-4210 | 293 31 55-76 | 8153-6710 | 1 13 50-16 | 34-1833 | 294 45 45-92 | 8187-8543 |
| 301 | 35 27-16548 | 984-7988 | 294 31 3-03 | 8181-0488 | 1 15 39-50 | 35-0275 | 295 46 43-49 | 8216-0763 |
| 302 | 36 26-30169 | 1012-1767 | 295 30 12-10 | 8208-4267 | 1 17 28-06 | 35-8716 | 296 47 41-06 | 8244-2983 |
| 303 | 37 25-43790 | 1039-5546 | 296 29 20-27 | 8235-8046 | 1 19 18-37 | 36-7158 | 297 48 38-64 | 8272-6204 |
| 304 | 38 24-57411 | 1066-9325 | 297 28 28-45 | 8263-1825 | 1 21 3-44 | 37-5293 | 298 49 31-89 | 8300-7090 |
| 305 | 39 23-71032 | 1094-3103 | 298 27 36-62 | 8290-5003 | 1 22 47-52 | 38-3296 | 299 50 24-14 | 8328-8900 |
| 306 | 40 22-84653 | 1121-0882 | 299 26 44-79 | 8317-9582 | 1 24 31-60 | 39-1337 | 300 51 16-39 | 8357-0709 |
| 307 | 41 21-98274 | 1146-0661 | 300 25 52-96 | 8345-3161 | 1 26 15-31 | 39-9330 | 301 52 8-28 | 8385-3491 |
| 308 | 42 21-11895 | 1170-4440 | 301 25 1-14 | 8372-6940 | 1 27 53-48 | 40-6904 | 302 52 54-02 | 8413-3844 |
| 309 | 43 20-25516 | 1203-8218 | 302 24 9-31 | 8400-0718 | 1 29 31-05 | 41-4479 | 303 53 40-96 | 8441-5197 |
| 310 | 44 19-39138 | 1231-1997 | 303 23 17-48 | 8427-4497 | 1 31 9-81 | 42-2653 | 304 54 27-29 | 8469-6550 |

TABLE XLVIII.C—*Contd.*

| TABLE XLVIII.C— <i>Contd.</i> | | | | | | | | | | | | | | |
|--|--|----------|-------------------------|-----------------------|----------|-------------------------|------------------------------------|----------|-------------------------|--|----------|-------------------------|-------|-----------|
| 24-hour periods from true Mēsa-samkrānti. | Sun's mean anomaly (or mean sun's distance from perige- point) ($^{\circ}C^{\circ}$). | | | Sun's mean longitude. | | | Sun's equation of the centre. + | | | Sun's true longitude ($^{\circ}S^{\circ}$). | | | | |
| | 2 | | 3 | 4 | | 5 | 6 | | 7 | 8 | | 9 | | |
| | \odot | \angle | 10,000ths of circle. | \odot | \angle | 10,000ths of circle. | \odot | \angle | 10,000ths of circle. | \odot | \angle | 10,000ths of circle. | | |
| 311 | 45 | 18-52759 | 1258-5770 | 304 | 22 | 25-66 | 8454-8276 | 1 | 32 | 46-18 | 305 | 55 | 11-84 | 8407-7765 |
| 312 | 46 | 17-06380 | 1285-9555 | 305 | 21 | 33-83 | 8482-2055 | 1 | 34 | 18-43 | 306 | 55 | 52-26 | 8525-6002 |
| 313 | 47 | 16-80601 | 1313-3323 | 306 | 20 | 42-00 | 8509-5833 | 1 | 35 | 50-69 | 307 | 56 | 32-40 | 8553-0559 |
| 314 | 48 | 15-03622 | 1340-7112 | 307 | 19 | 50-17 | 8536-0612 | 1 | 37 | 22-04 | 308 | 57 | 13-11 | 8582-0456 |
| 315 | 49 | 15-07243 | 1368-0891 | 308 | 18 | 58-35 | 8564-3391 | 1 | 38 | 51-63 | 309 | 57 | 50-01 | 8610-1081 |
| 316 | 50 | 14-20864 | 1395-4670 | 309 | 18 | 6-52 | 8591-7170 | 1 | 40 | 17-41 | 310 | 58 | 23-93 | 8638-1476 |
| 317 | 51 | 13-34485 | 1422-8448 | 310 | 17 | 14-69 | 8619-0948 | 1 | 41 | 43-16 | 311 | 58 | 57-85 | 8666-1871 |
| 318 | 52 | 12-48106 | 1450-2227 | 311 | 16 | 22-86 | 8646-4727 | 1 | 43 | 8-90 | 312 | 59 | 31-77 | 8694-2266 |
| 319 | 53 | 11-61727 | 1477-6006 | 312 | 15 | 31-04 | 8673-8506 | 1 | 44 | 29-13 | 313 | 0 | 0-17 | 8722-2235 |
| 320 | 54 | 10-75349 | 1504-9785 | 313 | 14 | 39-21 | 8701-2285 | 1 | 45 | 47-78 | 315 | 0 | 20-99 | 8750-2082 |
| 321 | 55 | 9-88970 | 1532-3563 | 314 | 13 | 47-38 | 8728-6063 | 1 | 47 | 6-43 | 316 | 0 | 53-81 | 8778-1930 |
| 322 | 56 | 9-02591 | 1559-7342 | 315 | 12 | 55-55 | 8755-9842 | 1 | 48 | 25-08 | 317 | 1 | 20-64 | 8806-1778 |
| 323 | 57 | 8-16212 | 1587-1121 | 316 | 12 | 3-73 | 8783-3621 | 1 | 49 | 35-96 | 318 | 1 | 39-69 | 8834-1625 |
| 324 | 58 | 7-29823 | 1614-4900 | 317 | 11 | 11-90 | 8810-7400 | 1 | 50 | 46-92 | 319 | 1 | 58-82 | 8862-0280 |
| 325 | 59 | 6-43454 | 1641-8678 | 318 | 10 | 20-07 | 8838-1178 | 1 | 51 | 57-89 | 320 | 2 | 17-00 | 8889-9534 |
| 326 | 60 | 5-57075 | 1669-2457 | 319 | 9 | 28-25 | 8865-4957 | 1 | 53 | 9-18 | 321 | 2 | 37-43 | 8917-9814 |
| 327 | 61 | 4-70696 | 1696-6236 | 320 | 8 | 36-42 | 8892-8736 | 1 | 54 | 12-46 | 322 | 2 | 48-88 | 8945-7475 |
| 328 | 62 | 3-84317 | 1724-0015 | 321 | 7 | 44-59 | 8920-2515 | 1 | 55 | 16-73 | 323 | 3 | 0-32 | 8973-6136 |
| 329 | 63 | 2-97938 | 1751-3793 | 322 | 6 | 52-70 | 8947-6293 | 1 | 56 | 19-01 | 324 | 3 | 11-77 | 9001-4797 |
| 330 | 64 | 2-11559 | 1778-7572 | 323 | 6 | 0-94 | 8975-0072 | 1 | 57 | 20-70 | 325 | 3 | 21-69 | 9029-3340 |
| 331 | 65 | 1-25181 | 1806-1351 | 324 | 5 | 9-11 | 9002-3851 | 1 | 58 | 16-34 | 326 | 3 | 25-45 | 9057-1408 |
| 332 | 66 | 0-38802 | 1833-5130 | 325 | 4 | 17-28 | 9029-7630 | 1 | 59 | 11-03 | 327 | 3 | 29-21 | 9084-9476 |
| 333 | 66 | 59-52423 | 1860-8908 | 326 | 3 | 25-45 | 9057-1408 | 2 | 0 | 7-52 | 328 | 3 | 32-07 | 9112-7644 |
| 335 | 67 | 58-60644 | 1888-2687 | 327 | 2 | 33-03 | 9084-5187 | 2 | 0 | 59-43 | 329 | 3 | 33-05 | 9140-3328 |
| 335 | 68 | 57-76655 | 1915-6466 | 328 | 1 | 41-80 | 9111-8966 | 2 | 1 | 46-74 | 330 | 3 | 28-54 | 9168-2757 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|-------------|-----------|--------------|-----------|------------|---------|--------------|-----------|
| 330 | 69 56-03286 | 1943-0245 | 329 0 49-47 | 9139-2745 | 2 2 34-05 | 56-7442 | 331 3 24-02 | 9100-0187 |
| 337 | 70 56-06907 | 1970-4023 | 329 59 58-14 | 9106-6523 | 2 3 21-36 | 57-1002 | 332 3 19-50 | 9223-7616 |
| 338 | 71 55-20628 | 1997-7802 | 330 59 6-32 | 9194-0302 | 2 4 2-08 | 57-4304 | 333 3 9-30 | 9231-4006 |
| 339 | 72 54-34149 | 2025-1681 | 331 58 14-49 | 9221-4051 | 2 4 42-01 | 57-7316 | 334 2 50-50 | 9279-1397 |
| 340 | 73 53-47770 | 2052-5300 | 332 57 22-55 | 9248-7800 | 2 5 21-04 | 58-0327 | 335 2 43-70 | 9300-8187 |
| 341 | 74 52-01391 | 2079-0138 | 333 56 30-83 | 9276-1638 | 2 6 0-07 | 58-3339 | 336 2 30-90 | 9334-4977 |
| 342 | 75 51-75013 | 2107-2917 | 334 55 39-01 | 9303-5417 | 2 6 31-41 | 58-5757 | 337 2 10-42 | 9362-1174 |
| 343 | 76 50-88634 | 2134-0096 | 335 54 47-18 | 9330-0100 | 2 7 2-16 | 58-8130 | 338 1 49-34 | 9389-7326 |
| 344 | 77 50-02255 | 2162-0475 | 336 53 55-35 | 9358-2975 | 1 7 32-01 | 59-0502 | 339 1 28-26 | 9417-3477 |
| 345 | 78 49-15876 | 2189-4254 | 337 53 3-53 | 9385-6754 | 2 8 2-21 | 59-2763 | 340 1 5-73 | 9444-6516 |
| 346 | 79 48-20497 | 2216-8032 | 338 52 11-70 | 9413-0532 | 2 8 24-09 | 59-4451 | 341 0 35-78 | 9472-4983 |
| 347 | 80 47-43118 | 2244-1811 | 339 51 19-87 | 9440-4311 | 2 8 45-97 | 59-6139 | 342 0 5-84 | 9500-0450 |
| 348 | 81 46-56739 | 2271-5590 | 340 50 28-04 | 9467-8090 | 2 9 7-85 | 59-7828 | 342 59 35-89 | 9527-5917 |
| 349 | 82 45-70360 | 2298-9309 | 341 49 36-22 | 9495-1869 | 2 9 28-40 | 59-9414 | 343 59 4-62 | 9555-1282 |
| 350 | 83 44-83981 | 2326-3147 | 342 48 44-39 | 9522-5647 | 2 9 41-41 | 60-0417 | 344 58 25-80 | 9582-4065 |
| 351 | 84 43-07802 | 2353-6926 | 343 47 52-56 | 9549-9426 | 2 9 54-42 | 60-1421 | 345 57 46-98 | 9610-0847 |
| 352 | 85 43-11223 | 2381-0703 | 344 47 0-73 | 9577-3205 | 2 9 7-43 | 60-2425 | 345 57 8-16 | 9637-6030 |
| 353 | 86 42-24845 | 2408-4484 | 345 46 8-91 | 9604-6984 | 2 10 16-96 | 60-3161 | 347 50 25-87 | 9665-0144 |
| 354 | 87 41-38406 | 2435-8262 | 346 45 17-08 | 9632-0762 | 2 10 21-10 | 60-3480 | 348 55 38-18 | 9692-4242 |
| 355 | 88 40-52087 | 2463-2041 | 347 44 25-25 | 9658-4541 | 2 10 25-24 | 60-3800 | 349 54 50-49 | 9719-8341 |
| 356 | 89 39-05708 | 2490-5820 | 348 43 33-42 | 9686-8320 | 2 10 29-38 | 60-4119 | 350 54 2-81 | 9747-2439 |
| 357 | 90 38-79329 | 2517-9599 | 349 42 41-60 | 9714-2099 | 2 10 28-28 | 60-4034 | 351 53 9-88 | 9774-6133 |
| 358 | 91 37-02950 | 2545-3377 | 350 41 49-77 | 9741-5787 | 2 10 24-14 | 60-3715 | 352 52 13-91 | 9801-8592 |
| 359 | 92 37-06571 | 2572-7156 | 351 40 57-94 | 9768-9656 | 2 10 20-01 | 60-3395 | 353 51 17-95 | 9829-3051 |
| 360 | 93 36-20192 | 2600-0935 | 352 40 6-12 | 9796-3425 | 2 10 15-87 | 60-3076 | 354 50 21-98 | 9856-4511 |
| 361 | 94 35-33813 | 2627-4714 | 353 39 14-29 | 9823-7214 | 2 10 3-98 | 60-2159 | 355 49 18-27 | 9883-9373 |
| 362 | 95 34-47434 | 2654-8492 | 354 38 22-40 | 9851-0902 | 2 9 50-97 | 60-1155 | 356 48 13-43 | 9911-2148 |
| 363 | 96 33-61055 | 2682-2271 | 355 37 30-03 | 9878-4771 | 2 9 37-96 | 60-0151 | 357 47 8-59 | 9938-4922 |
| 364 | 97 32-74677 | 2709-6050 | 356 36 38-81 | 9905-8650 | 2 9 23-63 | 59-9069 | 358 46 2-73 | 9965-7618 |
| 365 | 98 31-88298 | 2736-9829 | 357 35 46-08 | 9933-2329 | 2 9 2-05 | 59-7380 | 359 44 47-03 | 9992-0709 |

TABLE LI.

THE CHANGE IN THE VALUE OF THE SUN'S MEAN ANOMALY FROM THE VALUE GIVEN IN TABLE XLVIII-C, COLS. 2, 3, FOR THE BASE-YEAR OF THAT TABLE.

caused by the annual shift of the apsis of the sun's orbit postulated by the SIDDHĀNTA-ŚIRĪMAṆI.

[Add for years earlier, deduct for years later, than K. Y. 4500, A. D. 1399-1400.]

| Years. | CHANGE. | | Years. | CHANGE. | | Years. | CHANGE. | |
|--------|----------------------|----------------------|--------|----------------------|----------------------|--------|----------------------|----------------------|
| | Minutes and seconds. | 10,000ths of circle. | | Minutes and seconds. | 10,000ths of circle. | | Minutes and seconds. | 10,000ths of circle. |
| 1 | 0'-0174, or 1'-044 | 0-00805 | 10 | 0'-174, or 10'-44 | 0-0805 | 100 | 1'-74, or 1' 44'-4 | 0-805 |
| 2 | 0'-0348, or 2'-088 | 0-0161 | 20 | 0'-348, or 20'-88 | 0-161 | 200 | 3'-48, or 3' 28'-8 | 1-61 |
| 3 | 0'-0522, or 3'-132 | 0-02416 | 30 | 0'-522, or 31'-32 | 0-2416 | 300 | 5'-22, or 5' 13'-2 | 2-416 |
| 4 | 0'-0696, or 4'-176 | 0-032 | 40 | 0'-696, or 41'-76 | 0-32 | | | |
| 5 | 0'-0870, or 5'-220 | 0-04027 | 50 | 0'-870, or 52'-20 | 0-4027 | | | |
| 6 | 0'-1044, or 6'-264 | 0-0483 | 60 | 1'-044, or 1' 2'-64 | 0-483 | | | |
| 7 | 0'-1218, or 7'-308 | 0-05638 | 70 | 1'-218, or 1' 13'-08 | 0-5638 | | | |
| 8 | 0'-1392, or 8'-352 | 0-064 | 80 | 1'-392, or 1' 23'-52 | 0-64 | | | |
| 9 | 0'-1566, or 9'-396 | 0-07249 | 90 | 1'-566, or 1' 33'-96 | 0-7249 | | | |

TABLE LII.

VALUE OF SŪDHYA, OR TIME-DIFFERENCE BETWEEN THE MOMENTS OF "TRUE MĒSHA-SAMKRĀNTI" (TRUE SUN AT 0°) AND "MEAN MĒSHA-SAMKRĀNTI" (MEAN SUN AT 0°) BY THE SIDDHĀNTA-SIRŌMAṆI, as fixed by Dr. Schram for seven centuries. And Table of difference between that authority and the *First Ārya-Siddhanta*.

| In the year K. Y. expired. | In A.D. | Exact value of <i>sūdhya</i> . | | | | Value to be used in calculation by the longer rule. | | | Diff. between <i>Ārya Siddh.</i> and <i>Siddh. Sirōmaṇi</i> values of <i>sūdhya</i> ; for use by the shorter rule. |
|-------------------------------|------------|--------------------------------|----|----|--------|---|----|----|--|
| 1 | 2 | 3 | | | | 4 | | | 5 |
| | | d. | h. | m. | s. | d. | h. | m. | Minutes |
| 4200 | 1099-1100 | 2 | 4 | 18 | 49.0 | 2 | 4 | 19 | 46 |
| 4300 | 1199-1200 | 2 | 4 | 19 | 4.975 | 2 | 4 | 19 | 47 |
| 4400 | 1299-1300 | 2 | 4 | 19 | 20.95 | 2 | 4 | 19 | 47 |
| 4500 | 1399-1400 | 2 | 4 | 19 | 36.925 | 2 | 4 | 20 | 47 |
| 4600 | 1499-1500 | 2 | 4 | 19 | 52.9 | 2 | 4 | 20 | 47 |
| 4700 | 1599-1600 | 2 | 4 | 20 | 8.875 | 2 | 4 | 20 | 48 |
| 4800 | 1699-1700 | 2 | 4 | 20 | 24.85 | 2 | 4 | 20 | 48 |
| 4900 | 1799-1800 | 2 | 4 | 20 | 40.825 | 2 | 4 | 20 | 48 |
| 5000 | 1899-1900 | 2 | 4 | 20 | 56.800 | 2 | 4 | 21 | 48 |

The sūdhya increases annually in amount by about 0s. 16, actually 0s. 15.975.

TABLE LIII.

DIFFERENCE BETWEEN THE MOMENTS OF MEAN MĒSHA-SAMKRĀNTI AS CALCULATED BY (i) THE FIRST ĀRYA-SIDDHĀNTA, (ii) THE SIDDHĀNTA-ŚIRŌMAṆI,

the two having been together at K. Y. 0 or B.C. 3102.

[The moment of mean Mēsha-samkranti by the Ārya-Siddhānta having been found, deduct from this the time-difference for the Kaliyuga year of the given date. Result is moment of mean Mēsha-samkranti by the Siddhānta Śirōmaṇi.]

| Diff. in years. | Time Difference. | Diff. in years. | Time Difference. | Diff. in years. | Time Difference. | Diff. in years. | Time Difference. |
|-----------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|
| 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| | h. m. s. | | h. m. s. | | h. m. s. | | h. m. s. |
| 1 | 0 0 21 | 10 | 0 3 30 | 100 | 0 35 0 | 1000 | 5 50 0 |
| 2 | 0 0 42 | 20 | 0 7 0 | 200 | 1 10 0 | 2000 | 11 40 0 |
| 3 | 0 1 3 | 30 | 0 10 30 | 300 | 1 45 0 | 3000 | 17 30 0 |
| 4 | 0 1 24 | 40 | 0 14 0 | 400 | 2 20 0 | 4000 | 23 20 0 |
| 5 | 0 1 45 | 50 | 0 17 30 | 500 | 2 55 0 | | |
| 6 | 0 2 6 | 60 | 0 21 0 | 600 | 3 30 0 | | |
| 7 | 0 2 27 | 70 | 0 24 30 | 700 | 4 5 0 | | |
| 8 | 0 2 48 | 80 | 0 28 0 | 800 | 4 40 0 | | |
| 9 | 0 3 0 | 90 | 0 31 30 | 900 | 5 15 0 | | |

THE SIDDHANTA-SIROMANI.

GENERAL TABLES FOR CALCULATION BY THE TRUE OR APPARENT MOTION OF SUN AND MOON.

(Previously published in *Epigraphia Indica*, Vol. XV, pp. 159 to 245.)

267. The present article deals with the exact calculation of dates by the *Siddhanta-Sirōmaṇi*, which is believed to have been largely followed in some parts of India from the 12th century A.D. It provides complete Tables for the settlement of all the elements of the date, the solar month and day, the luni-solar month and *tithi*, the intercalated or suppressed month, and so on. They are framed on the *a, b, c* system of Largeteau and Jacobi, and follow the general lines of the *Indian Calendar*.

268. Since the name given to the whole year sometimes differs from that assigned by the *Ārya- and Sūrya-Siddhāntas* (see above, Table XLII, cols. 10, 11) and since the day of the solar month always differs, while the *tithi*, the intercalated lunar month,¹ and *nakshatra* very often differ, the necessity for these Tables will be apparent.

To give an example. Professor L. D. Barnett has called attention to a record found in the village of Hulgūr, Bankāpur Taluq, Dhārwar District, Bombay, which is dated in the year Ananda (A.D. 1254-55), Monday, Phālguna full-moon day, the day of a *saṁkrānti*. Worked by the *Sūrya-Siddhānta*, the date is found to be irregular, inasmuch as the *saṁkrānti* occurred not on the Monday in question (22 Feb. 1255), but at 8^h 52^m after mean sunrise on Tuesday, 23 Feb. But it is perfectly correct by the *Siddhanta-Sirōmaṇi*, according to which the moment of the *saṁkrānti* was 6^h 10^m after mean sunrise on the Monday. The document, therefore, if otherwise acceptable, should be given full historical weight.

269. Before we proceed a word of caution is necessary. While I hope that use of the Tables will yield exactly correct scientific results according to the requirements of the *Siddhanta-Sirōmaṇi*, we have at present no knowledge of how closely or how loosely the mediæval framers of local *pañchāṅgs*, (almanacs) followed the rules. If they only used whole numbers and disregarded fractions, which is probably the case, epigraphists must be prepared for occasional differences in close cases. If, again, they calculated time only in *ghaṭikās* and *palas*, it must not be forgotten that the *pala* is a division of 24 seconds, while my Tables give results down to a fraction of a second. This affords rather a wide margin for possible differences. The moral is that dates with slight differences should not be hastily rejected. Each should be treated on its merits and reasonable allowance made. Notes of close cases in the matter of intercalated and suppressed lunar months will be found inserted before Table LX. Differences in *tithis* must be examined, each on its merits.

270. It may at first sight seem absurd to work so closely as to state the value of "*a*," "*b*," "*c*" in nine decimals of a second, as I have done in the heading of Table LIVB; but let it be remembered that this value may be worked up into years and centuries for purposes of Tables LVIIA, B. In the body of the Tables four decimal places are given for all values.

For general verification of dates the whole numbers should first be used, as in the *Indian Calendar*, decimals being resorted to only in close cases.

I give full explanation of all my processes and calculations, so that these may be clear to experts, and that they may be corrected if in error.

¹ In the whole period of 800 years comprised in Table LX it will be found that out of a total of 304 years in which intercalations and suppressions of lunar months occurred there are differences between the *Sūrya-Siddhānta* and the *Siddhanta-Sirōmaṇi* in 234 years. The difference also of a whole day in every solar year implies a corresponding difference in the sun's longitude and leads to constant differences in the *nakshatra*.

ELEMENTS OF THE SIDDHĀNTA-ŚĪRŌMAṆI.

271. The *Siddhānta-Śīrōmaṇi* is believed to have been composed by Bhāskarāchārya in A.D. 1150, when he was 36 years of age. The late Dr. James Burgess¹ states that the date is "supported by the evidence of an inscription near Chalisgām." Dr. Bhau Daji placed its appearance in A.D. 1105.²

The late Sankara Balkrishna Dikshit pronounced³ that the *Rājamrigāṅka*, a work composed in A.D. 1042, was the same as the *Siddhānta-Śīrōmaṇi* in the matter of the calculation of an almanac, and if so, all the Tables which follow would apply to the former as well as to the latter. But up to the present I have no certainty about this. If my information is correct, the length of the solar year according to the two authorities differs; though in some other respects they may well be similar. For the *Rājamrigāṅka*, while following the *Brahma-Siddhānta* of Brahmagupta (A.D. 628), introduced changes in it, which changes were adopted in the *Siddhānta-Śīrōmaṇi*. Only one complete copy of the *Rājamrigāṅka* has come to light. This is in the Deccan College Library at Poona, which also possesses a fragment consisting of two chapters. Professor N. K. Majumdar of the Calcutta University, who has kindly made enquiries for me, writes that, although there seems to be frequent reference to a table of sines, such a Table is not to be found in either of the copies. It seems therefore somewhat premature to assert that Tables adapted for computation by the *Siddhānta-Śīrōmaṇi* will apply in all respects to work by the *Rājamrigāṅka*.

272. According to the *Siddhānta-Śīrōmaṇi* the length of the mean solar sidereal year, on the basis of 1,577,916,450 civil days to a *yuga* of 4,320,000 years, is 365-2584375 days or 365^d 6^h 12^m 9^s, a quantity less than that of the *Ārya-Siddhānta* by 21^s.

The sines of the 24 base angles of anomaly have the same value as in the *Ārya*- and *Sārya-Siddhāntas*, with $\sin. 90^\circ$, or radius, = 3438'. [See Table XLVII above for these sines and equations of sun's centre. For the moon see Table LIX below.]

For the sun's mean motions per day, hour, etc., see Table XLIV above, and footnote to it.

The epicycles of sun and moon are not contracted at any point. That of the sun has a circumference of 13° 40'; that of the moon 31° 36' (*Jacobi, above, Vol. I, p. 441*). The sun and moon are always treated as planets.

The line of apsides of the sun's orbit has a constant slight forward shift, the movement amounting to 0' 0174 or 1' 041 per annum. In the total period of 800 years embraced by my Table LX this shift amounts to 13' 55" 2.

The greatest equation of the sun (i.e. eqn. 90°) is 2° 10' 31", or in ten-thousandths of circle 6424382715. That of the moon is 5° 2' 7" 3661 or 139-871652005. The two together = 200 296034720.

The epoch of the Kaliyuga was the moment of mean sunrise, or 6 A.M. Lākā time, on Friday 18 Feb. B.C. 3102, a moment which for purposes of computation is treated as K.Y. 0 expired, 0^h 0^m 0^s. This was the moment of occurrence of mean Mēsha-samkrānti in that year, when mean moon, mean sun and mean Jupiter were all considered to be in exact conjunction at the 0° point of celestial longitude. True Mēsha-samkrānti in that year, i.e. the moment when the true sun touched that point, occurred on Tuesday 15 Feb. at 19^h 52^m 21^s after mean sunrise.

We have given the term "*śodhya*" to the interval in time between true and mean Mēsha-samkrānti. In K.Y. 0 expired this was 2^d 4^h 7^m 38^s 50, or 24-171971 (*Indian Chronography, Table, p. 16; Dr. Schram's valuation*). For later centuries see Table B in § 273 below, p. 133.

¹ J. R. A. S., Oct. 1893, p. 751. § 31.

² J. R. A. S., n. s., I. 392.

³ *Indian Calendar*, v. 8.

The position of the moon's apsis at K.Y. 0 was $305^{\circ} 29' 46''$. Mean moon being at 0° , her mean anom. at that moment was $(360^{\circ} - 305^{\circ} 29' 46'') = 54^{\circ} 30' 14''$ (Jacobi, *above*, I, 442).

The position of the sun's apsis, perigee-point, at that moment was $257^{\circ} 45' 36''$, and his mean anom. was $(360^{\circ} - 257^{\circ} 45' 36'') = 102^{\circ} 14' 24''$ (Jacobi, *above*, I, 442). For later centuries see Table XLIVA above.

EFFECTS OF THESE ELEMENTS.

273. (i) *Length of the mean solar year.* Since, as above stated, the *Siddhanta-Siromani* year is less by $21''$ than the *Ārya-Siddhanta* year, and since this divergence is annual and began in B.C. 3102 at the epoch of the Kaliyuga, when the two were together, it had, by the year A.D. 1100 when my Table LX begins, increased to more than 24 hours. Hence the moments of both mean and true Mēsha-saṁkrānti according to the *Siddhanta-Siromani* are always a day earlier than they are by the *Ārya-Siddhanta*, the times of the occurrence of which are given in Table I of the *Indian Calendar* and Table LXI below. (See also Table LIII *above*.) The moment of true Mēsha-saṁkrānti each year can be calculated from Table LIII and Table B below, but it is not necessary to do so, unless to check my fixtures as all details are given in Table LX below.

(ii) The Table given in *Indian Chronography*, p. 27, for calculating the *śodhya* at different dates, during the period covered by Table LX below according to the *Siddhanta-Siromani*, is here reproduced to save reference.

TABLE B.
VALUE OF ŚODHYA BY THE SIDDHANTA-SIROMANI.
Dr. Schram's fixtures.

| In K.Y. year expired. | In A.D. | Exact value of śodhya. | | | | Difference between <i>Siddh.- Śiro</i> and <i>Ārya-Siddh.</i> value of śodhya. For work by shorter rule. | |
|-----------------------------|-----------|------------------------|----|----|--------|---|--------|
| 1 | 2 | 3 | | | | 4 | |
| | | d. | h. | m. | s. | m. | s. |
| 4200 | 1099-1100 | 2 | 4 | 18 | 49-000 | 46 | 19-000 |
| 4300 | 1199-1200 | 2 | 4 | 19 | 4-975 | 46 | 34-975 |
| 4400 | 1299-1300 | 2 | 4 | 19 | 20-950 | 46 | 50-950 |
| 4500 | 1399-1400 | 2 | 4 | 19 | 36-925 | 47 | 6-925 |
| 4600 | 1499-1500 | 2 | 4 | 19 | 52-900 | 47 | 22-900 |
| 4700 | 1599-1600 | 2 | 4 | 20 | 8-875 | 47 | 38-875 |
| 4800 | 1699-1700 | 2 | 4 | 20 | 24-850 | 47 | 54-850 |
| 4900 | 1799-1800 | 2 | 4 | 20 | 40-825 | 48 | 10-825 |
| 5000 | 1899-1900 | 2 | 4 | 20 | 56-800 | 48 | 26-800 |

Longer rule. Take time of true Mēsha-saṁkrānti by the *Ārya-Siddhanta* from Table I, *Indian Calendar*, or Table LXI below, adding $30''$ in odd A.D. years (*Indian Chronography*, Hint 20, p. 79). Add *Ārya-Siddhanta* śodhya (constant) $2^{\circ} 3' 32'' 30''$. This gives mean Mēsha saṁkrānti by *Ārya-Siddhanta*. Deduct time-difference (Table A, *above*) for interval of years from K.Y. 0, and so find mean Mēsha-saṁkrānti by *Siddhanta-Siromani*. Deduct *Siddhanta-Siromani* śodhya (Table B, col. 3). Thus gives the required true Mēsha-saṁkrānti time by *Siddhanta-Siromani*.

Work approximately, if this is considered sufficient, by whole minutes, ignoring seconds and decimals.

Shorter rule. Take time of true Mēsha-saṁkrānti by the *Ārya-Siddhanta* as above. From this deduct the sum of the amounts for time-difference for interval of years (Table LIII *above*) and the difference given in col. 4, Table B.

For examples of work see *Indian Chronography*, p. 27, § 62 H, where the system is shown approximately in whole minutes. It can be extended into seconds and decimals, if necessary.

(iii) *The shift of the sun's apsis.* The constant forward shift of the sun's apsis slightly affects the moment in each year when the true sun reaches 0° , the moment of true Mēsha-saṁkrānti; and creates a small change in the lengths of the true solar months owing to the change in the times of his reaching the points of the signs, and in their collective duration as measured from 0° . The sun is always regarded as a planet in Hindu astronomy, and his orbit is geocentric. His velocity is, in each year, in consequence of the shift of apsis a little greater than in the year previous in some parts of his orbit and a little less in others. For the purpose of correct calculation in very close cases these differences are detailed in Table LVIII-D below; but as they are very slight, they may in ordinary cases be ignored. And let it be always borne in mind that, as yet, we do not know how far the local almanac-makers of mediæval times paid any attention to them.

As regards the time of the true sun reaching long. 0° , since his velocity is greatest at the perigee-point and since this point is annually moving forward, he reaches long. 0° every year a trifle earlier than in the year before. The change is $0^{\circ}15975$ per annum. And for the same reason every year his mean anomaly at that point grows slightly less and the equation of the centre slightly greater. The change in the equation amounts to $0^{\circ}65584$ or, in 1,000ths of circle, 0.0005058 per century.

The shift of the apsis being $1^{\circ}044$ per annum, it amounts to $1^{\circ}44^{\circ}4$ in a century, or, calculated in 1,000ths of the circle, to 0.0805. The sun's mean anom. at true Mēsha-saṁkrānti therefore decreases every century by this amount, and every year in proportion.

The *Siddhanta-Śirōmaṇi* length of year is $365^d 6^h 12^m 9^s$, and therefore the length of the year as measured between two consecutive true Mēsha-saṁkrāntis is this amount less $0^{\circ}15975$, or is $365^d 6^h 12^m 8^s 84025$. On this basis, which agrees exactly with Dr. Schram's determination of the value of the *śodhya* in different millenniums (*Indian Chronography*, p. 16), the moments of true Mēsha-saṁkrānti given in Table LX below have been computed.

(iv) *Note on work for the nakshatra.* The constant given in the *Indian Calendar* (pp. 65, 97), in the formula for verifying the *nakshatra*-index, is 7207. It is made up of the long. of the sun's perigee plus the amount of the sun's greatest equation. The amount 7207 represents the *Sūrya-Siddhānta* value, which varies from 7206.5077 in A.D. 900 to 7207.4035 in A.D. 1900.

The *Ārya-Siddhānta* value is a constant, and is always 7226.3542, roughly 7226.

By the *Siddhānta-Śirōmaṇi*, owing to its greater increase in the shift of the sun's apsis year by year, the variation in this factor is more pronounced. The long. of the apsis in A.D. 900 was $258^\circ 55' 12''$, or, in 10,000ths of circle, 7192.2, and in A.D. 1900 it was $259^\circ 12' 36''$ or 7200.27. The difference in 100 years is 0.805, in circle measurement, or in 1,000 years 8.05.

The greatest equation of the sun's centre (§ 272 above) is, in circle notation, 60.4244,—the same as by the *Sūrya-Siddhānta*. The factor therefore in the formula referred to for finding the *nakshatra*-index is, for the beginning of the K.Y. year 4000, $(7192.2 + 60.4244 =) 7252.6466$. And for later centuries is as shewn in the following Table:—

| K.Y. cent. | A.D. cent. | Exact factor. | Roughly. |
|------------|------------|---------------|----------|
| 4000 . | 900 . | 7252.6466 . | 7253 |
| 4100 . | 1000 . | 7253.4522 . | 7253 |
| 4200 . | 1100 . | 7254.2577 . | 7254 |
| 4300 . | 1200 . | 7255.0633 . | 7255 |
| 4400 . | 1300 . | 7255.8688 . | 7256 |
| 4500 . | 1400 . | 7256.6744 . | 7257 |
| 4600 . | 1500 . | 7257.4799 . | 7257 |
| 4700 . | 1600 . | 7258.2855 . | 7258 |
| 4800 . | 1700 . | 7259.0910 . | 7259 |
| 4900 . | 1800 . | 7259.8965 . | 7260 |
| 5000 . | 1900 . | 7260.7023 . | 7262 |

In very close work intermediate quantities must be taken for intermediate years. See Table LI above, which gives the quantities for the change in the sun's mean anom. The same figures can be applied to this factor.

CONSTRUCTION OF THE TABLES.

Tables LIVA and B. Advance of "a," "b," "c" for days, hours, minutes and seconds.

274. These Tables are to be used in calculation by the *Siddhanta-Siromani* in the same way as Tables IV, V of the *Indian Calendar* are used for the *Surya-Siddhanta*; working first with whole numbers and resorting to the decimals only in close cases. The values of "a," "b," "c" at mean sunrise on Chaitra śukla 1 of any year being taken down from Table LX below, addition of the figures given in Tables LIVA, LIV B for the intervening days, hours, etc., up to the given date furnishes the "a," "b," "c" at any moment of any subsequent day, i.e. gives us for that moment (a) the distance between mean moon and mean sun, (b) the moon's mean anom., (c) the sun's mean anom. The figures are parts of the circle,—a ten thousandths, b and c thousandths.

To arrive at an exact estimate of the value of these quantities an examination was made of Prof. Jacobi's fixtures for their value at mean sunrise of the first day of the 42nd century K.Y., a moment, that is, separated from the epoch of the Kaliyuga or mean Mēsha-saṁkrānti K.Y. 0, by exactly 4200 years K.Y. Mean Mēsha-saṁkrānti K.Y. 4200 (expired) took place on Friday 25 March A.D. 1099 at 10^h 30^m after mean sunrise and therefore 13^h 30^m before the mean sunrise of Saturday. 13^h 30^m = 33^s 44^o, the amount of Jacobi's "Cor.," or correction (*Epig. Ind., Vol. I, Table XIII, p. 450*). In that Table he gives the figures for the beginning of century 42 K.Y. as "a" (Dist. ☾ - ☉) = 14° 18' 0", "b" (☾'s anom.) = 51° 24' 13", "c" (☉'s anom.) = 281° 1' 19". Owing to his arrangement of Tables, by which he gives only one Table for calculation of solar days (*Table XXI*) applicable to all *Siddhāntas*, whereas the date of occurrence of mean Mēsha-saṁkrānti by the *Siddhanta-Siromani* is always a day earlier than by the other authorities, we have, for comparison with his tabular figures, to add a day's increase to the above valuation. This gives us "a" = 26° 29' 27", "b" = 64° 28' 7", "c" = 282° 0' 27". Adding the increase in 13^h 30^m or 33^s 44^o (Jacobi's "Cor.," Table XXII), we have finally for the values at mean sunrise of Sunday "a" = 33° 20' 40".4, "b" = 71° 48' 50".86, "c" = 282° 33' 41".36. In 10,000ths of the circle (a), and 1,000ths (b and c), these values show the increase in 4,200 years to have been a = 926.237654, b = 199.483677, c = 784.893163. From "a" has to be deducted in accordance with our *Indian Calendar* working-system the sum of the greatest equations of moon and sun, viz. 200.296035, and hence "a" = 725.9416.

Prof. Jacobi, however, has, since his valuation published in Vol. I, slightly modified his estimate of this value of "a." In Vol. XI above (*Table IX, B*) he states the three values as a = 7263, b = 1995, c = 7849. In my notation these figures are a = 726.3, b = 699.5, c = 284.9.¹ The difference being very small (0.4), I conclude to accept his later estimate of the increase of "a."

On this basis then, viz. the exact amount of increase of "a," "b," "c," in 4200 K.Y. years, has been calculated the increase per civil day (*Table LIVA*), per hour, minute and second (*Table LIVB*), per year and per century (*heading of Table LIVA*), according to the *Siddhanta-Siromani*. The valuation of increase of "a" differs from that of the *Surya-Siddhanta* by about 2 units in a century. Note that a common century consists of 36,526 days, a defective century of 36,525 days. The whole period consisted of 1,534,087 civil days.

To assist in the calculation the yearly increases of "a," "b," "c" given, from year to year, in Prof. Jacobi's *Special Tables* (above, Vol. I, *Tables XVI, XIX*) were also referred to. It would have been easier had these contained decimals of seconds.

¹ I measure the ☾'s and ☉'s anom. from perigee, Jacobi from apogee.

Tables LV, LVI. Equations of the centre—moon and sun.

275. The values of "a," "b," "c" at any moment, which fix the positions of mean moon and mean sun, having been found by use of Tables LIV A and B, the *kiki*, or the position of the true moon with reference to the true sun, is ascertained by applying the equations of moon (eqn. "b") and sun (eqn. "c") to the value of "a." Tables LV, LVI give these equations in closer detail than heretofore (compare Tables VI, VII, "*Indian Calendar*"), enabling great accuracy to be obtained.

Each equation (col. 3) is the exact value (the value, that is, to be used in our system of work), in 10,000ths of the circle, of the equation of the mean anomaly angle ("Arg.") stated on either side in cols. 2a, 2b. Col. 1 gives the number of the base-equation, that is to say, the serial number of the equation of each of the 24 base-angles of anom.; each such angle separated from the next by $3^{\circ} 45'$, the whole forming the quadrant of 90° . Each section of $3^{\circ} 45'$ is divided into five equal parts, the whole forming a group within the limits of which, following universal Hindu practice, the equation is computed by the fixed value of the sine of the base-angle. In 10,000ths of the circle $3^{\circ} 45' = 10.416$, and one-fifth of this is 2.083. The difference, col. 4, is the difference between the equations of each of the five parts of the group.

When examining a date Tables VI, VII of the *Indian Calendar* or Tables LXXXIV, LXXXV below may be used for obtaining approximate results, or the new Tables may be used with whole numbers only. The latter form a sort of eye-Table. Absolute accuracy, or very close approximation, can be obtained by using the decimals as a whole or in part. Thus—

(Rule) Take the difference between the value of anom., ("b" or "c"), found in work for a date, and the nearest to it, greater or less, in col. 2a or 2b of Table LV or LVI respectively. Multiply this difference by the group-difference (col. 4), and divide the quotient by 2.083. Add, or subtract, the result to, or from, the next equation. This gives the exact value of equation "b" or equation "c." For an approximation use only one or two decimals, and instead of dividing by 2.083 divide by 2 or by 2.1.

The amount of "equation b" or "equation c" is a compound of the actual equation for the given anom. and the greatest equation (which is the actual equation for anom. 90°). The first half of each of the equation-Tables LV and LVI concerns the quantity of anom. 0° to 180° , or, in 1,000ths of circle, 0 to 500. Here the tabulated "equation b" (Table LV) is the moon's greatest equation *plus* the actual equation of the given anom. The tabulated "equation b" in the second half of Table LV deals with the moon's anom. 180° to 360° or, in 1,000ths of circle, 500 to 1000; and the tabulated equation is the greatest equation *minus* the actual equation of the given anom. In the first half of Table LVI (for sun's anom. 0° to 180° , or, in 1,000ths of circle, 0 to 500) the tabulated "equation c" is the sun's greatest equation *minus* the actual equation. In the second half (for sun's anom. 180° to 360° , or, in 1,000ths of circle, 500 to 1000) the tabulated equation is the sun's greatest equation *plus* the actual equation of the given anom.

The actual equation-Table for the moon is given below—Table LIX. That of the sun in Table XLVII above. All details have been fully worked out by the proper formulæ.

For method of work see Example 3 below.

TABLES LVIIA, B, C.

Value of "a," "b," "c" for centuries, years and days.

276. These Tables enable us to ascertain the value of "a," "b," "c," and so to determine the exact position of mean moon and mean sun at the beginning of any year with which the general Table LX is concerned. Table LVIIA gives the "a," "b," "c" of mean sunrise, i.e. mean sunrise of the day on which mean Mēsha-saṁkrānti occurred at the beginning of the century; Table

LVIIB the same for the beginning of the given year ; Table LVII C the same for the days on which true Mēsha-saṁkrānti occurred and on which began the luni-solar year. The respective week-days for the beginning of the solar and luni-solar year are given in Table LX, but can be found also by these Tables.

In the case of a date in the solar year the values of "a", "b", "c" in Table LVIIA are added to those of Table LVIIB, and the sum of these is added to the values of the day of true Mēsha-saṁkrānti in Table LVIIC. The values for the interval of days between true Mēsha-saṁkrānti and the day given in the date in question are obtained from Table LIVA, and thus are found the positions of moon and sun at mean sunrise of the latter day. For any subsequent moment of that day the values in Table LIVB are added to the result.

In the case of a date given in the luni-solar year (the most usual method) Table LX provides the "a", "b", "c" for mean sunrise on the initial day of the luni-solar year, while Tables LIVA and B enable the calculation to be completed. The values given in Table LX can be checked by Tables LVIIA, B, C.

From the "a", "b", "c" of true Mēsha-saṁkrānti in any year, found by Tables LVIIA, B, C, the "a", "b", "c" of each true saṁkrānti in the year are found by addition of the values given in Table LVIIIA; and by the result it is ascertained whether there was any intercalation or suppression of a lunar month in the given year.

277. Table LVIIA. The most important point here is the settlement of the values of "a", "b", "c" at the moment of mean sunrise of the day on which the 42nd K.Y. century began. This was the day on which occurred mean Mēsha-saṁkrānti of K.Y. 4200, or A.D. 1099-1100. In § 274 above details are given explaining Prof. Jacobi's values for the moment in question. Enough has been said about the value of "a". The following notes about the respective values of "b" and "c" may be found helpful.

The value of "b", the moon's mean anom. for K.Y. 4200. In my notation this was stated as in 1,000ths of the circle, 699·4837. Working the calculation by the values given in the heading of Table LIV for the mean moon's movement in 4,200 years, consisting of 37 common and 5 defective centuries, the total is found to be, excluding whole revolutions, 548·145255. To this has to be added the moon's mean anom. at the epoch of the Kaliyuga. At that moment the moon's apsis (perigee) stood at $305^{\circ} 29' 46''$,—apogee being at $125^{\circ} 29' 46''$ —and the mean moon was at 0° . Therefore her mean anom. was $(360^{\circ} - 305^{\circ} 29' 46'') 54^{\circ} 30' 14''$. This in 1,000ths of the circle is 151·3997. Adding this to the above, her mean anom., "b", at mean sunrise of the day on which mean Mēsha-saṁkrānti occurred in K.Y. 4200 expired is found to be 699·5449. The difference between the two calculations is 0·0612. Both agree with Jacobi's valuation 699·5.

The value of "c" the sun's mean anom. At the epoch of the Kaliyuga the sun's apsis (perigee) was at long. $257^{\circ} 45' 36''$. Mean sun being at long. 0° , the sun's mean anom. was $(360^{\circ} - 257^{\circ} 45' 36'') 102^{\circ} 14' 24''$. This, in 1,000ths of circle, is 284·0. The increase of "c" (Table LIVA, heading) in 37 common and 5 defective centuries, total 42, is, excluding whole revolutions, 4·278478. This, added to the value of "c" in K.Y. 0, viz. 284·0, gives the value of "c" at beginning of K.Y. 4200 expired as 288·278478. From this has to be deducted the amount of the decrease in the sun's mean anom. due to the forward shift of the apsis. This was shewn above (§ 273, ii) to be, in 1,000ths of the circle, 0·0805 per century. In 42 centuries the decrease amounts to $3·383. 288·278478 - 3·383 = 284·8951$. In § 274 the valuation was given as 284·893163. The difference between the two is less than 0·002, and both agree with Jacobi's valuation 284·9.

* Jacobi, *Epig. Ind.* Vol. I, pp. 440, 442. See also E. Burgess's "*Sārva-Siddhānta*."

Comparing the two sets of results I have decided to adhere to Prof. Jacobi's own fixtures, as given in § 274; and, fully worked out, the figures for mean sunrise on Sunday 27 March A.D. 1099 are $a=726\cdot307704844$, $b=699\cdot483676555$, $c=284\cdot893163057$. For two days earlier, namely for mean sunrise on Friday 25 March A.D. 1099, on which day mean Mēsha-saṁkrānti of K.Y. 4200 expired took place at $10^h\ 30^m$ after mean sunrise, the correct details, obtained by deduction of 2 days' value (Table LIV A) from the above, are—

$$\begin{aligned} & \text{(6) Friday} \\ & a=40\cdot043734020 \\ & b=626\cdot900376983 \\ & c=279\cdot417587971. \end{aligned}$$

This explains the first entry in Table LVII A. The rest follow by addition of the century values given in the heading of Table LIV A. Century 42 was a defective one of 36,525 days. The rest were common ones, each of 36,526 days.

36,525 divided by 7 leaves remainder 6. Mean Mēsha-saṁkrānti in K.Y. 4200 took place on 6 Friday. $6+6=(\text{week-day})\ 5$. Hence the day of the week of mean Mēsha-saṁkrānti in K.Y. 4300 was 5 Thursday; and since 36,526 divided by 7 leaves no remainder, mean Mēsha-saṁkrānti at the beginning of each of the following centuries took place on a Thursday.

Coupling the arrangement made in Table LVII A for centuries with the arrangement for days made in Table LVII C, the result of calculations made by these Tables coincides precisely with those obtained by use of Jacobi's Tables. Such arrangement is the one best suited to the requirements of the *Siddhanta-Śirōmaṇi*. An example will best illustrate this.

Given that it is desired to find the "a", "b", "c" at mean sunrise of the day on which true Mēsha-saṁkrānti took place in K.Y. 4806 expired, A.D. 1705·6. This day was (see Table LX) Tuesday 27 March A.D. 1705.

Worked by Jacobi's Tables IX, X, XIII of Epig. Ind., Vol. XI, we have—

| | w.d. | a. | b. | c. |
|---|-----------|--------|-------|-------|
| For cent. 48 | 0 | 3619·0 | 696·0 | 784·1 |
| " year 6 | 0 | 1942·7 | 515·0 | 998·5 |
| True Mēsha-saṁk. day ¹ | 3 | 8645·5 | 854·8 | 989·0 |
| | 3 (Tues.) | 4207·2 | 65·8 | 771·6 |

In my reckoning, "b" and "c" being calculated from perigee instead of from apogee, these are $a=4207\cdot2$, $b=565\cdot8$, $c=271\cdot6$.

Worked, with only one decimal, by Tables LVII A, B, C below, the result is the same; thus—

| | w.d. | a. | b. | c. |
|--------------------------------|-----------|--------|-------|-------|
| For cent. 48 | 5 | 2941·8 | 123·5 | 278·7 |
| " year 6 | 0 | 1942·7 | 515·0 | 998·5 |
| True Mēsha-saṁk. day | 5 | 9322·7 | 927·4 | 994·3 |
| | 3 (Tues.) | 4207·2 | 565·9 | 271·7 |

278. Table LVII B. This Table shows the increase of a, b, c for each year of a century corresponding with Prof. Jacobi's (Epig. Ind., Vol. XI) Table X, but in greater detail, derived from use of the figures given in the heading of Table LIV A.

¹ Jacobi's Table XIII is framed to suit all Siddhāntas. By the *Ārya-* and *Sārya-Siddhāntas* the day on which true Mēsha-saṁkrānti occurred is shown as "0 Vaiśākha," 4 Wednesday. By the *Siddhānta-Śirōmaṇi* that day was a day earlier (above, § 278, i), namely the day tabulated by Jacobi as "29 Mīna," 3 Tuesday.

279. *Table LVIIC.* Col. 1 shows the number of day's interval between mean sunrise of true Mēsha-samkrānti day, "Mēsha 0," and mean sunrise of the day which in each year was coupled with the first *tithi* of the luni-solar year and was called the day of "Chaitra śukla 1." Col. 2 gives the number of the day of the solar month Mina (Paṅguni in the Tamil country); col. 3, the week-day; cols. 4, 5, 6, the value of "a", "b", "c" at mean sunrise of that day. The "a", "b", "c" of mean sunrise on the first day of the luni-solar year called "Chaitra śukla 1" are found by adding to the "a", "b", "c" of the K.Y. century (*Table LVIIA*) and of the year (*Table LVIIIB*) the values of "a", "b", "c" given in *Table LVIIC* for the number of days intervening between the day of Chaitra śukla 1 in the given year and the day of true Mēsha-samkrānti (*Table LX*, cols. 13, 19,—figures in brackets). This work, however, need not be carried out by epigraphists, since the required values of "a", "b", "c" for Chaitra śukla 1 in each year are stated in *Table LX*, cols. 23, 24, 25.

These values being known, the *tithi*-ind-x at mean sunrise on any day in the given year is easily found, as in work by the *Indian Calendar*, by addition to them of the "a", "b", "c" for intervening days given in *Table LIVA*; and for any moment of any day by use of *Table LIVP*.

Tables LVIII-A, B, C, D. Duration of true solar months.

280. *Table LVIII-A* is, for the *Siddhānta-Siromani*, what *Tables XVIII-A, B* in my *Indian Chronography* are for the *Ārya- and Śārya-Siddhāntas*. It states the duration of each true solar month from *samkrānti* to *samkrānti*, and the collective duration from true Mēsha-samkrānti to each true *samkrānti*, with the corresponding increases of "a", "b", "c". By the aid of this *Table* are calculated the solar elements of the date and the intercalations and suppressions of lunar months. The *Table* is designed to suit the year K.Y. 4500 expired, A.D. 1399-1400,—the year of my *Table XLVIII-C* above. The differences in the duration of months in other years, caused by the shift of the sun's apsis, are dealt with in *Table LVIII-D*.

Tables LVIII-B and *C* are supplementary and explain themselves. They will be found very useful in calculation for the sun's mean anom., "c", and the corresponding "equation c" at the several *samkrāntis* and at true Mēsha-samkrānti in different years.

Table LVIIID shews how the shift of the sun's apsis affects the duration of the several solar months in different years, and the "a", "b", "c" at the several solar *samkrāntis*. The change given in the *Table* is that for an interval of three centuries on either side of K.Y. 4500, and in very close cases should be applied to the figures arrived at by use of the other *Tables*—cases that is, where after use of those figures it seems doubtful whether a certain lunar month was intercalated or suppressed.

For an example of its use. Compare the positions of sun and moon at the moment when the true sun reached the Dhanus-samkrānti in K.Y. 4200 (A.D. 1100) and in K.Y. 4800 (A.D. 1700). *Table LVIII-A* shews that in K.Y. 4500 the sun took $246^d 9^h 9^m 34^s$ to travel from Mēsha-samkrānti, long. 0° , to the Dhanus-samkrānti, long. 240° , while the increase of "a", "b", "c" during this interval was—"a"=3432·7047, "b"=941·5957, "c"=674·5407. To ascertain what this respective increase was in K.Y. 4200 we use the correction given in *Table LVIII-D*—thus

| | a. | b. | c. |
|-----------------------|-----------|----------|----------|
| $246^d 9^h 9^m 34^s$ | 3432·7047 | 941·5957 | 674·5407 |
| $-4 \quad 55 \quad .$ | -1·1563 | -0·1239 | -0·0092 |
| $246^d 9^h 4^m 39^s$ | 3431·5484 | 941·4718 | 674·5315 |

These last are the correct figures for the year K.Y. 4200, A.D. 1100. For the year K.Y. 4800, using the figures of *Table LVIII-D* with reversed sign, the correct figures are found to be $249^d 9^h 14^m 29^s$, "a"=3433·8610, "b"=941·7196, "c"=674·5499. In a close case this difference in value of "a", "b", "c" may prove the intercalation or suppression of a different lunar month.

Changes for years less than 300 may be taken proportionally. The Table need seldom be used, as it is only very occasionally required.

281. The determination of the exact lengths of the several solar months and their collective duration (*Table LVIIIA*) has been a matter of considerable difficulty, and in publishing the quantities given in the Table I must not be held to assert that the mediæval Hindu used those lengths and no others. He may have calculated roughly, or, if scientifically, then by several different processes.

Take as an example the time of the true sun's arrival, say in K. Y. 4500, at the Vṛishabha saṁkrānti, 30° , in order to determine the length of the solar month Mēsha.

(i) One method of reckoning is that which was used in the preparation of *Table XLVII-C* (*above*), viz. by applying to the mean long. of the sun (*col. 4*) the equation of the centre (*col. 6*) as found by computation from the Hindu equation-Table (*Table XLVII*), which is based on a series of groups of angles; and so obtaining the sun's true long. According to this system it is found that in the first 30 whole days from true Mēsha-saṁkrānti the sun travelled $29^\circ 7' 28'' 60$ (*Table XLVIII-C, col. 8*). Before he reached 30° , therefore, he had to travel $52' 31'' 40$.

(ii) Another method is, discarding the group system of the equation-Table, to ascertain directly the value of the sine of the mean anom. angle at the beginning of the 30th day after the moment of true Mēsha-saṁkrānti, and to work the equation of that sine-value; afterwards calculating for the remaining hours and minutes taken by the sun to reach 30° . The value of the sine is obtained by the method described in § 282.

Thus we find from *Table XLVIII-C* that the sun's mean anom. at the beginning of the 30th day was $128^\circ 21' 25 232$, or $7701' 25 232$. This divided by 225 is 34 with remainder $51' 25 232$. The 34th sine is, counting down and then up on the left side of the equation-Table, the base sine No. 14, or the sine of $127^\circ 30'$. This is $2728'$ (*col. 3*). The difference between this and the next base sine is $143'$ (*col. 4*). $51' 25 232 \times 143 = 7329' 08 176$, and this divided by 225 is $32' 57 369$. $2728' - 32' 57 369 = 2695' 42 63$; and this, therefore, is the sine of the given anom. angle $128^\circ 21' 25 232$.

The equation-formula is $\sin. \text{eqn.} = \frac{1}{1080} \sin. \text{anom.}$ (§ 258 *above*) and the result is (the angle being a small one) that the equation $= 1^\circ 42' 21'' 578$. The sun's mean long. (*Table XLVIII-C, col. 4*) at the beginning of this 30th day was $27^\circ 25' 9'' 14$; and, adding the equation we find that his true long. at that moment was $29^\circ 7' 28'' 72$. The true sun, before he reached long. 30° , therefore, had to travel $(30^\circ - 29^\circ 7' 28'' 72) 52' 31'' 28$.

In either of the above cases how long did he take to accomplish the journey?

To ascertain this we may either use the sun's mean motion (*Table XLIV*); or we may use the true motion in hours for the particular 30th day (*Table XLIX*), as fixed by the group system of the equation-Table, with his mean motion in minutes and seconds (*Table L, LI*); or we may carefully work out his true motion for that 30th day by dividing his motion during that day by 24 for hours, and again by 60 for minutes, and each minute by 60 for seconds; or, yet again, even still more accurately, by calculating his real motion during the particular hours of the day actually concerned, and so the rest.

Thus it is clear that we can calculate the length of Mēsha in a number of ways, with slight differences in the result of each; and so with all the solar months and their collective lengths. These differences in the lengths of months may amount to two or three seconds in each, and at some parts of the orbit the cumulative difference may amount to perhaps a quarter of a minute, but probably not more than that.

I have tried all the methods noted above, except the last, which it seemed unnecessary to attempt, in order to arrive at the exact lengths of the months, and believe that my *Table LVIII-A* is sufficiently accurate. Since it is not known how the mediæval Hindu astronomers carried out their computation, no better course presented itself.

Let it be noted that any little difference that may exist will have no effect whatever on the value of the *tithi*; and as regards the intercalated and suppressed months care has been taken to avoid any possibility of error by a special note of every close case in the page preceding the body of Table LX.

Table LIX. The moon's equation of the centre.

282. The Table itself requires no explanation. The equations have been calculated by the proper formula, viz. $\sin. \text{eqn.} = \frac{\sin. a \times \text{mins. in epicycle}}{\text{mins. in orbit}}$, here $\frac{\sin. a \times 1896'}{21600'}$, or $\frac{79'}{900'} \sin. a$. (§ 251 above; and especially § 272, para. 3. Moon's epicycle $31^\circ 96' = 1896'$.)

It has to be noted, however, that—whereas, when (as in the case of the equation of the sun) the sine of the equation-angle is less than $3^\circ 45'$, the equation is the same as the sine and therefore the formula may be read as " $\text{eqn.} = \frac{79}{900} \sin. a$ "—here, in the lower half of the Table of the moon's equations, the sine of the equation-angle is greater than $3^\circ 45'$. Thus $\sin. \text{eqn. } 90^\circ$ is $5^\circ 1' 46''.8$, but $\text{eqn. } 90^\circ$ is $5^\circ 2' 7''.366$.

The rule for finding the equation, when $\sin. \text{eqn.}$ is greater than $3^\circ 45'$ and less than $7^\circ 30'$ (it is always less in the present case), is as follows. First ascertain the value of $\sin. \text{eqn.}$ by the above formula. Deduct $225'$ from this value; either multiply the remainder by 225 and divide the product by 224 or add to the same remainder a 224th part of itself (*see cols. 2, 3, 4, Table LIX*). Add to the result $225'$ (*col. 3*).

Thus for the given moon's mean anom. 90° . $\sin. 90^\circ = 3438'$ (*col. 3*), and $\frac{79' \times 3438'}{900'} = 301''.78$, or $5^\circ 1' 46''.8$, as stated above. This is the value of the $\sin. \text{eqn.}$ For the equation we work with $301''.78$ as the given angle. This minus $225' = 76''.78$. $76''.78 \times 225 = 17275''.50$, and this divided by 224 is $77''.122768$. $77''.122768 + 225' = 302''.122768$, and this $= 5^\circ 2' 7''.366068$, which is the correct equation of the moon's centre when his mean anom. is 90° . Worked in the other way, a 224th part of $76''.78$ is 0.342768 , and this added to $76''.78$ gives the same result, viz. $77''.122768$.

283. It is advisable here to state the *Hindu rule for finding the sine of any angle*,¹ viz.:—Ascertain the number of minutes contained in the given arc. Divide these by $225'$ ($= 3^\circ 45'$). The quotient is the serial number of the preceding base-sine as given in Table LIX, col. 1. Multiply the remainder by the difference between the preceding and succeeding base-sines (*col. 4*) and divide by 225. Add the result to the preceding base-sine. Thus with arc 24° or $1440'$. $1440' \div 225$ yields quotient 6, remainder 90. 6 is the serial number of the sine of $22^\circ 30'$ (*col. 1*). The difference between the base-sine No. 6 and base-sine No. 7 is (*col. 4*) 205. $90 \times 205 = 18450$, and this divided by 225 = 82, with no remainder. The preceding base-sine, No. 6, is $1315'$, and this plus 82 = $1397'$. $1397'$ is the sine of 24° .

283 A. The equation-Table for the moon's centre given below (*Table LIX*) is practically the same as that of Prof. Jacobi's Table XXIV-A (*Vol. I, p. 458, above*); but in the former decimal points are given which are omitted in the latter. We agree also in our equation-Tables for the sun (mine in Table XLVII, above, his in Table XXIV-B, *Epigraphia Indica* Vol. I, p. 459). But there seems to be some mistake in the figures entered by him, stated in parts of the circle, in his equivalent Table of the equations of the sun's centre given in *Epig. Ind.* Vol. XI

¹ The Hindu rule laid down in the *Sūrya-Siddhānta* (vv. 31-33) is, as interpreted by Spottiswoods (*Journal of the Royal Asiatic Society* for 1863, Vol. XX), $\sin. a (225 + \theta) = \theta \left\{ \frac{\sin. (a + 1) 225'}{225'} - \sin. a \frac{225'}{225'} \right\}$. The sine is a line, not a ratio.

(Table XII, p. 169, col. " $\Delta 10$ ") for differences in consecutive equations. For instance, the equation for anom. $221^{\circ} 15'$ is $1^{\circ} 26' 3^{\circ} 72$ (base-equation No. 11) and for anom. $223'$ is $1^{\circ} 32' 17^{\circ} 28$ (base-equation No. 12). Difference $6' 13^{\circ} 56$. There is a difference of $223'$ in the anomalies, and $6' 13^{\circ} 56 \div 225$ gives the difference per minute of anom. as $1^{\circ} 66$. In this we both agree.

Now $6' 13^{\circ} 56$, in 10,000ths of the circle, is 28824, or, with two decimals only, 288, but Prof. Jacobi in Vol. XI quotes "278" as the figure. It stands between his "arg. c" 1146 and 1250, which are the equivalents in his notation of the anom. angles corresponding to $221^{\circ} 15'$ and 223° —serial numbers 11 and 12 in the equation-Table.

One-fifth of 28824 = 05765, and this is the entry given in col. 4 of Table LVI below as the group-difference for all anom. angles between those of the serial numbers 11 and 12.

I venture to suggest the following amendments to all the entries in Prof. Jacobi's col. " $\Delta 10$," reading from top to bottom of his Table XII (Vol. XI):—

| For 3-75 | | For 3-26 | read 3-36 | | For 1-83 | read 1-86 |
|----------|--------|----------|-----------|--------|----------|-----------|
| " 3-85 | " 3-94 | " 3-07 | " 3-22 | " 1-53 | " 1-63 | |
| " 3-75 | " 3-90 | " 2-88 | " 3-06 | " 1-34 | " 1-39 | |
| " 3-65 | " 3-85 | " 2-78 | " 2-88 | " 1-15 | " 1-14 | |
| " 3-65 | " 3-78 | " 2-59 | " 2-71 | " 0-86 | " 0-90 | |
| " 3-56 | " 3-69 | " 2-40 | " 2-51 | " 0-58 | " 0-65 | |
| " 3-46 | " 3-61 | " 2-21 | " 2-30 | " 0-38 | " 0-39 | |
| " 3-36 | " 3-50 | " 2-02 | " 2-09 | " 0-10 | " 0-12 | |

These differences stand in regular progression. It is possible that the Professor's first entry "375" is a printer's error for 395; but even so our agreement is only in that one out of 24 entries.

Table LX. Working Table for computation of dates.

284. Table LX is the principal working Table by which the *tithi*, lunar and solar month and day, *nakshatra* and *yoga* given in the date of a document or inscription and based on the *Siddhanta-Sirṃamā* can be verified and converted into European reckoning; the *nakshatra*, *yoga* and *lagna* being still more accurately computed by use of Table XLVIII-C above. Table LX is to be used exactly as Table I of the *Indian Calendar* is used for *Ārya*- and *Sūrya-Siddhanta* reckoning. In the latter whole numbers only are given. Here four places of decimals are added (they need not of course be used, unless necessary), and seconds of time are given as well as minutes. For further explanation see the page of note preceding the Table.

To be entirely on the safe side, and for convenience of working from the beginning of a century of the Kaliyuga, as well as for guidance in studying the working of the Metonic cycle according to this authority, the Table begins with K.Y. 4200 expired (A.D. 1099-1100); though in all probability the *Siddhanta-Sirṃamā* was not used in India for the preparation of almanacs till A.D. 1150 at earliest.

A date should be first computed approximately by use of whole numbers only, and the equation-Tables LV and LVI used merely as eye-Tables. Very great accuracy can be obtained by close work in greater detail.

Each intercalation and suppression of a lunar month has been carefully calculated. For the process reference may be made to my *Indian Chronography*, §§ 95-103, and Examples 27-32. The months are true months, as it is almost certain that calculation by mean months was never resorted to at so late a date as that when our authority came into use.

(Cols. 13, 14, 17.) See the last para. of § 273 above. The true sun arrives at 0° every year after a journey lasting $365^{\circ} 6' 12'' 8^{\circ} 84025$. The moment of this arrival, i.e. the moment of true *Mesha-samkrānti* in the first year of the Table, was fixed by calculation from Dr. Schram's determination of the *śodhya* and the sun's equation at that instant (above, § 273). For all later years the time-interval was added to this. The result accords exactly with Dr. Schram's fixtures.

(Cols. 19-20.) The luni-solar date, week-day and "a", "b", "c" have each been separately calculated. For process see Example 2 below. The date and week-day are generally the same as those found by *Sārya-Siddhānta* computation, but differ from these in occasional close cases, and where the intercalations and suppressions of lunar months differ.

The 19-year Metonic sequence.

285. [For a note as to this see *Indian Calendar*, § 50, p. 29.] This sequence, in work by the *Siddhānta-Siromani*, proceeds with the same general regularity as when computed by the *Ārya- and Sārya-Siddhāntas*. In the period of 650 years dealt with in Table LX the intercalated lunar months are, in seven cases, the month next to that expected by the sequence, not that month itself (*see note preceding the Table*). The rest are regular. Suppressions follow the sequence in all cases. In the same period there are six such irregularities by *Sārya-Siddhānta* and two by *Ārya-Siddhānta* work.

Future research will no doubt settle the question whether the irregularity of seven out of 260 cases of intercalations and suppressions in the period embraced is attributable to the postulates of the *Siddhānta-Siromani* or to any defect in my calculations. All possibility of error, however, in computation of dates of records by these Tables is removed by the footnotes entered in each case and the Remarks embodied in the page preceding Table LX. Whenever a record-date belonging to either of these seven years is examined, it should be tested both ways.

EXAMPLES.

Example 1. To find the value of "a", "b", "c" for the moment of true *Mēsha-saṁkrānti* in any year, the beginning of the solar year.

Rule. Note in Table LX the number of the expired year of the Kaliyuga (col. 2.) [In this column the K.Y. year is that *current* in the corresponding A.D. year. The *expired* K.Y. year is the next earlier]. Note (cols. 13-17) the day, week-day, and time of occurrence of true *Mēsha-saṁkrānti* in that year. Take from Table LVII-A the week-day and "a", "b", "c" for the beginning of the K.Y. century; from Table LVII-B the same for the expired K.Y. year of the century; from Table LVII-C the same for the day marked "*Mēsha 0*" (col. 2), or the day next to it, being guided by the given week-day (Table LX, col. 14); and add together the three sets of values so obtained. The sum of these shews the positions of the moon and sun (a, b, c) at mean sunrise of the day on which true *Mēsha-saṁkrānti* occurred. For the moment of the *saṁkrānti* add to these values of "a", "b", "c" those for the hours, minutes and seconds elapsed since mean sunrise (col. 17), obtaining them from Table LIV-B.

Work. Given that the values of "a", "b", "c" are wanted for the moment of mean sunrise of the day on which true *Mēsha-saṁkrānti* occurred in K.Y. 4492 expired, A.D. 1391-2; and at the moment of that *saṁkrānti*.

Table LX shews that the day was (0) Saturday 25 March A.D. 1391, and that the *saṁkrānti* occurred on that day at 17^h 18^m 12^s.

(i) *Approximate calculation, by whole numbers.*

| | w-d. | a. | b. | c. |
|--|----------|------|-----|-----|
| Table LVII-A. K.Y. cent. 44 | 5 | 7454 | 768 | 277 |
| „ LVII-B. Year 92 | 4 | 9389 | 543 | 1 |
| „ LVII-C. <i>Mēsha 0</i> | 5 | 9323 | 927 | 995 |
| At mean sunrise of Sat. 25 March | 0 (Sat.) | 6166 | 240 | 273 |
| Table LIV-B. 17 hours | | 240 | 26 | 2 |
| 18 minutes | | 4 | 0 | 0 |
| At moment of <i>saṁkrānti</i> | | 6410 | 266 | 275 |

(ii) *Full calculation.* Worked to the full extent, with use of decimals and including the value of "a", "b", "c" for seconds the result is—

For mean sunrise, $a=6166.1839$, $b=240.2250$, $c=272.5113$.

For moment of Mēsha-saṁkrānti, $a=6410.3281$, $b=266.3902$, $c=274.4852$.

Note. The value found for "c" will always be a guide as to whether the calculation has been made for the right day (*see Table LVIII-C below*); for at true Mēsha-saṁkrānti "c" is always 274 or 275. In this case let it be observed that 8 years later than the given year, viz. in K.Y. 4500, the value of "c" at true Mēsha-saṁkrānti was 274.4058. The change in "c" at that moment, owing to shift of sun's apsis (§ 273, ii), being 0.0805 per century, and our calculation having been based on the value for K.Y. 4400, we should, for extreme accuracy, deduct from 274.4852 the proportional change for 92 years, which amounts to 0.0741, leaving our c for A.D. 1391 = 274.4111.

Example 2. Required to find the value of a , b , c at mean sunrise of the civil day called Chaitra śukla 1, the civil beginning of the luni-solar year K.Y. 4492 expired, A.D. 1391-2.

Rule. (i) If the a , b , c of mean sunrise on the day on which true Mēsha-saṁkrānti occurred in the year in question has already been found, as above, note the interval of days between mean sunrise on the day of Chaitra śukla 1 (*Table LX, col. 19*) and on the day of true Mēsha-saṁkrānti in the given year (*col. 13*), both in brackets. With that interval of days turn to *Table LIV-A* and find it in *col. 1*. Take the week-day and "a", "b", "c" values stated against it, and deduct the amount from the ascertained value of "a", "b", "c" for the Mēsha-saṁkrānti day (mean sunrise). Thus—

In *Example 1* we have determined the "a", "b", "c" values for mean sunrise on 25 March A.D. 1391, Day 84 (*Table LX, col. 13*). The day of Chaitra śukla 1 was 7 March, Day 66 (*col. 19*). Interval 18 days. We deduct 18 days' "a", "b", "c" from the former by *Table LIV-A*.

| | w-d. | a. | b. | c. |
|--|-----------|------------|-----------|----------|
| Mēsha 0, mean sunrise | 0 | 6166.1839 | 240.2250 | 272.5113 |
| For 18 days' interval (<i>Table LIV-A</i>)—4 | | —6095.3757 | —653.2496 | —49.2802 |
| | 3 (Tues.) | 70.8082 | 586.9754 | 223.2311 |

These were the values of "a", "b", "c" on Tuesday 7 March A.D. 1391. (*Compare entry in Table LX.*)

(ii) If the "a", "b", "c" of mean sunrise on Mēsha-saṁkrānti day has not already been found, add together as in *Example 1* the week-day and "a", "b", "c" of the K.Y. century and the year (*Tables LVII A, B*), and to the sum of these add the week-day and the "a", "b", "c" stated in *Table LVII-C* against the interval of days (*as above*). Here the K.Y. century is 44, the year is 92, the interval of days is 18.

| | w-d. | a. | b. | c. |
|------------------------|-----------|-----------|----------|----------|
| Table LVII-A. Cent. 44 | 5 | 7454.2101 | 768.2089 | 277.3743 |
| " LVII-B. Year 92 | 4 | 9389.2378 | 544.5994 | 0.6126 |
| " LVII-C. 18 days | 1 | 3227.3603 | 274.1671 | 945.2442 |
| | 3 (Tues.) | 70.8082 | 586.9754 | 223.2311 |

The result is the same as by process (i).

Owing to the formation of the Tables the week-day will sometimes be found to be different by one from the week-day noted in *Table LX, col. 19*. In such case the week-day

and "a", "b", "c" in Table LVIII to be applied must be that of the altered interval, the week-day always being that stated in Table LX.

Thus in A.D. 1390-91, K.Y. 1401, the interval (Table LX, cols. 13, 19) is (84-77) 7 days. When we come to work, we find (Table LVII-A) given the week-day 5, and (Table LVII-B) week-day 2, Total 7, or 0. Now in Table LVII-C against 7 days' interval (col. 3) we find week-day 5; but, as we have to arrive at the entry in Table LX (col. 20), i.e. at the "a", "b", "c" for 6 Friday, we add the week-day (6) and the "a", "b", "c" for it (standing for 6 days' interval instead of 7) in Table LVII-C. Such change is never more than one day.

Example 3. Given the moon's mean anom. "b", or the sun's mean anom. "c", as found in work for verifying a date, required to find "eqn. b," or "eqn. c."

The work is similar in either case. We will take an instance of a case where "c", the sun's mean anom., has been found to be 146-3264.

By Table LVI we see that the equation for anom. values between 145-83 and 147-916 lies between 12-4786 and 12-0181, the difference between them being 0-4605. For rule of work see § 275 above.

Approximation. A glance at Table LVI shows that eqn. c must be 12 and a small fraction.

Closer work. The difference between 146-3 and the next figure of Arg. in the Table (col. 2 a), viz. 147-9, is 1-6. The group-difference (col. 4) is 0-4605. Call this 0-5. The invariable difference between successive entries of arc ("Arg.") is 2-083. Call this 2. $1-6 \times 0-5 = 0-8$. This divided by 2 is 0-4. Add this to the equation stated for Arg. 147-9, viz. 12-0. Result 12-4.

Still closer work. The actual anom. difference (147-916-146-3264) is 1-5902. This multiplied by the group-difference, $0-4605 = 0-7323$. This divided by 2-083 is 0-3515. And this, added to 12-0181 (the equation of anom. 147-916), gives as the exact equation of anom. 146-3264 as 12-3696.

Example 4. To find the tithi current at mean sunrise of any civil day, or at any moment of that day.

Rule. Take the European date, serial number of the day (in brackets measured from Jan. 1st of the A.D. year) and "a", "b", "c" of Chaitra śukla 1 of the luni-solar year, from cols. 19 to 25 of Table LX. Find the interval of days to the given day and add to the "a", "b", "c" of Chaitra śukla 1 the "a", "b", "c" for that number of days given in Table LIV-A. This gives the "a", "b", "c" of sunrise on the given day.

For subsequent hours, minutes and seconds add the "a", "b", "c" given in Table LIV-B.

Find eqn. b and eqn. c from Tables LV and LVI, and add them to the "a" already found. The result is the tithi-index; with which find the current tithi in Table VIII, Indian Calendar or Table LXVIII below.

Compare Example 4 in the section on the *First Ārya-Siddhānta—True System*. Work in similar manner, but with the use of *Siddhānta-Sīromani* Tables.

Example 5. Calculation for intercalated (adhika) and suppressed (haya) lunar months.

This is the same as in work by the *Indian Calendar* or *Indian Chronography*, but the lengths of the solar months, their collective duration, week-days and "a", "b", "c" must be taken from Table LVIII below when working by the *Siddh.-Sīromani*. In a very close case

use may be made of Table LVIII-D. But even so, in work for the *tithi*, or for intercalations and suppressions of months, the correction in the value of "*a*" need alone be taken into account, since the change in the *tithi*-index, "*t*", is governed by the value of *eqn. b* and *eqn. c*, not of "*b*" and "*c*"; and the difference in these equations is infinitesimal.

An example is here given of work by the Tables in a very close case, viz. the intercalation of a lunar month in K.Y. 4850 expired, A.D. 1749-50.

In that year, according to the *Sārya-Siddhānta* Bhādrapada was the added month. Was it so according to the *Siddhānta-Śirōmaṇi*?

In that year (Table LX, cols. 13-17) true Mēsha-saṁkrānti occurred on Tuesday, 28 March, A.D. 1749, at 5^h 46^m 57^s after mean sunrise. First must be ascertained the position of mean moon and mean sun at that moment, individually and relatively, i.e. the values of "*a*", "*b*", "*c*". For this process see Example 1.

Approximate calculation with whole numbers.

| | <i>w-d.</i> | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|--|-------------|----------------|-----------|-----------|
| (Table LVII-A) For K. Y. cent. 48 | 5 | 2942 | 123 | 279 |
| (" LVII-B) " " year 50 | 0 | 4436 | 794 | 0 |
| (" LVII-C) " 0 Mēsha mean sunrise | 5 | 9323 | 927 | 995 |
| (" LIV-B) { " 5 hours | ... | 71 | 8 | 1 |
| { " 47 minutes | ... | 11 | 1 | 0 |
| At true Mēsha-saṁkrānti | 3 (Tues.) | 6783 | 853 | 275 |
| (Table LVIII-A, cols. 6, 7, 8) Interval to Siṁha-saṁkrānti | ... | 2471 | 552 | 343 |
| At true Siṁha-saṁkrānti | ... | 9254 | 405 | 618 |
| (Table LV) <i>Eqn. b</i> | ... | 218 | | |
| (" LVI) <i>Eqn. c</i> | ... | 101 | | |
| | | <hr/> | | |
| | | " <i>t</i> " = | 9572 | |

Hence the moon was waning at the Siṁha-saṁkrānti. At the next (Kanyā) saṁkrānti was she waning or waxing?

| | | | |
|---|------------|-------|-----|
| (Above) At Siṁha-saṁkrānti | 9254 | 405 | 618 |
| (Table LVIII-A, cols. 13, 14, 15) Interval to Kanyā-saṁkrānti . | 518 | 127 | 85 |
| At Kanyā-saṁkrānti | 9772 | 532 | 703 |
| (Table LV) Eqn. b | 111 | | |
| (" LVI) Eqn. c | 118 | | |
| | <hr/> | | |
| | <i>t</i> = | 10001 | |

This is so close to 10000, or 0, that it seems doubtful whether new moon took place before or after the Kanyā-saṁkrānti, whether, that is, at that moment the moon was still waning or had begun to wax. It is certain that she was waning at the previous Siṁha-saṁkrānti, and therefore we can calculate direct from the Mēsha to the Kanyā-saṁkrānti. For greater

accuracy we use one decimal place and guess a little more carefully the values of " *eqn. b* " and " *eqn. c* " at the latter saṁkrānti.

| | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|---|-----------|-----------|--------------------|
| K. Y. c-nt. 48 | 2941.8 | 123.4 | 278.8 |
| „ year 50 | 4435.0 | 794.4 | 0.2 |
| Mēsha-saṁkrānti day (mean sunrise) | 9322.7 | 927.4 | 994.5 |
| 5 hours | 70.5 | 7.6 | 0.6 |
| 47 minutes | 11.1 | 1.2 | 0.1 |
| At Mēsha-saṁkrānti | 6782.0 | 854.0 | 274.2 |
| Interval to Kanyā-saṁk. (Table LVIII-A, cols. 6, 7, 8) | 2989.5 | 679.0 | 428.4 |
| At Kanyā-saṁkrānti | 9771.5 | 533.0 | 702.6 ¹ |
| <i>Eqn. b</i> | 110.9 | | |
| <i>Eqn. c</i> | 118.2 | | |

$$t = 10000.6 \text{ or } 0.6$$

On a still closer examination, using the full number of given decimals and calculating the equations *b* and *c* thoroughly, it is found that at the Kanyā-saṁkrānti the *tithi*-index was 10000.9421. It is not necessary to give the full working figures. It is certain that at that saṁkrānti the moon was waxing, so far as we have gone, and therefore the intercalated lunar month was (Table LVIII-A, cols. 1, 2) 6 Bhādrapada.

But since the date K.Y. 4850 is 350 years subsequent to the base-year K.Y. 4500, and the lengths of the solar months have in the interval slightly changed in consequence of the shift of the sun's apsis, it is necessary to find out whether this change would make any difference in the result. We therefore correct the " *a* " of the Kanyā-saṁkrānti by Table LVIII-D. At the Kanyā-saṁkrānti 300 years after K.Y. 4500 the change in " *a* " (col. 3) was -0.0901. Increase this by one-sixth for another 50 years' change. Total change -0.1051. Hence the real *tithi*-index, " *t* ", at Kanyā-saṁkrānti was (0.9421-0.1051=) 0.8370. Bhādrapada was certainly intercalated.

In § 274 above (Para. 3, p. 139) I stated that I accepted Prof. Jacobi's figures for the value of *a* in K.Y. 4200, although by my own estimate his was too large by 0.4. If, in this very close case, we reduce the value of " *a* " (found to be 9771.5 at Kanyā-saṁkrānti) by 0.4, making *a*=9771.1, we find that the state of the true moon at the Kanyā-saṁkrānti was (*t*=) 10000.2; or with the correction applied as in the last para. 10000.4370. Thus the moon was really waxing at that moment (new moon occurring at the point 10,000 or 0), but had only begun to do so about two minutes before the sun entered Kanyā.

¹ In all cases the value of " *c* " at saṁkrāntis should be compared with the values given in Table LVIII-B below, and the equation taken therefrom should be used.

TABLE LIV. A.

INCREASE OF "a", "b", "c" IN DAYS.

(a in 10,000ths; b and c in 1,000ths of circle.)

| | |
|---------------------------|---|
| Increase in 1 day | a = 338-631985412; b = 36-291649786; c = 2-731787543. |
| Do. in 1 year of 365 days | a = 3600-674675380; b = 246-452171890; c = 999-292453195. |
| Do. in " 396 " | a = 3939-106660752; b = 282-743821676; c = 2-030240738. |
| Do. in 1 cent. of 36525 " | a = 8533-267173300; b = 552-508433650; c = 997-609452520. |
| Do. in " 36526 " | a = 8871-899158712; b = 588-800083436; c = 0-347240063. |

N.B.—By first calculation, "c" for a cent. of 36525 days is 997-690008075, and for a cent. of 36526 days is 0-427795618. Each of these quantities is reduced by 0-0805 on account of shift of ©'s apsis. (See Text, § 273, ii.)

This Table answers to Table IV, *Indian Calendar*.

DAYS OF 24 HOURS EACH.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|------------|-----------|----------|-----|-----------|------------|-----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 1 | 1 | 338-6320 | 36-2916 | 2-7378 | 41 | 6 | 3883-9114 | 487-9576 | 112-2493 |
| 2 | 2 | 677-2640 | 72-5833 | 5-4756 | 42 | 0 | 4222-5434 | 521-2493 | 114-9871 |
| 3 | 3 | 1015-8960 | 108-8749 | 8-2134 | 43 | 1 | 4561-1754 | 555-5409 | 117-7249 |
| 4 | 4 | 1354-5279 | 145-1666 | 10-9512 | 44 | 2 | 4900-8073 | 589-8226 | 120-4627 |
| 5 | 5 | 1693-1599 | 181-4582 | 13-6889 | 45 | 3 | 5238-4393 | 623-1242 | 123-2004 |
| 6 | 6 | 2031-7919 | 217-7499 | 16-4267 | 46 | 4 | 5577-0713 | 659-4159 | 125-9382 |
| 7 | 0 | 2370-4239 | 254-0415 | 19-1645 | 47 | 5 | 5915-7033 | 705-7075 | 128-6760 |
| 8 | 1 | 2709-0559 | 290-3332 | 21-9023 | 48 | 6 | 6254-3353 | 741-9992 | 131-4138 |
| 9 | 2 | 3047-6879 | 326-6248 | 24-6401 | 49 | 0 | 6593-9673 | 778-2908 | 134-1516 |
| 10 | 3 | 3386-3199 | 362-9165 | 27-3779 | 50 | 1 | 6931-5993 | 814-5825 | 136-8894 |
| 11 | 4 | 3724-9518 | 399-2081 | 30-1157 | 51 | 2 | 7270-2312 | 850-8741 | 139-6272 |
| 12 | 5 | 4063-5838 | 435-4998 | 32-8535 | 52 | 3 | 7608-8632 | 887-1658 | 142-3650 |
| 13 | 6 | 4402-2158 | 471-7914 | 35-5912 | 53 | 4 | 7947-4952 | 923-4574 | 145-1027 |
| 14 | 0 | 4740-8478 | 508-0831 | 38-3290 | 54 | 5 | 8286-1272 | 959-7491 | 147-8405 |
| 15 | 1 | 5079-4798 | 544-3747 | 41-0668 | 55 | 6 | 8624-7591 | 996-0407 | 150-5783 |
| 16 | 2 | 5418-1118 | 580-6664 | 43-8045 | 56 | 0 | 8963-3912 | 1032-3324 | 153-3161 |
| 17 | 3 | 5756-7437 | 616-9580 | 46-5423 | 57 | 1 | 9302-0232 | 1068-6240 | 156-0539 |
| 18 | 4 | 6095-3757 | 653-2496 | 49-2802 | 58 | 2 | 9640-6551 | 1104-9157 | 158-7917 |
| 19 | 5 | 6434-0077 | 689-5413 | 52-0180 | 59 | 3 | 9979-2871 | 1141-2073 | 161-5295 |
| 20 | 6 | 6772-6397 | 725-8329 | 54-7558 | 60 | 4 | 10317-9191 | 1177-4990 | 164-2673 |
| 21 | 0 | 7111-2717 | 762-1246 | 57-4935 | 61 | 5 | 10656-5511 | 1213-7906 | 167-0050 |
| 22 | 1 | 7449-9037 | 798-4162 | 60-2313 | 62 | 6 | 10995-1831 | 1250-0823 | 169-7428 |
| 23 | 2 | 7788-5357 | 834-7079 | 62-9691 | 63 | 0 | 11333-8151 | 1285-3739 | 172-4806 |
| 24 | 3 | 8127-1676 | 870-9995 | 65-7069 | 64 | 1 | 11672-4471 | 1322-6656 | 175-2184 |
| 25 | 4 | 8465-7996 | 907-2912 | 68-4447 | 65 | 2 | 12011-0790 | 1358-9572 | 177-9562 |
| 26 | 5 | 8804-4316 | 943-5828 | 71-1825 | 66 | 3 | 12349-7110 | 1395-2489 | 180-6940 |
| 27 | 6 | 9143-0636 | 979-8745 | 73-9203 | 67 | 4 | 12688-3430 | 1431-5405 | 183-4318 |
| 28 | 0 | 9481-6956 | 1016-1661 | 76-6581 | 68 | 5 | 13026-9750 | 1467-8322 | 186-1696 |
| 29 | 1 | 9820-3276 | 1052-4578 | 79-3958 | 69 | 6 | 13365-6070 | 1504-1238 | 188-9073 |
| 30 | 2 | 10158-9596 | 1088-7495 | 82-1336 | 70 | 0 | 13704-2390 | 1540-4155 | 191-6451 |
| 31 | 3 | 10517-5915 | 1125-0411 | 84-8714 | 71 | 1 | 14042-8709 | 1576-7071 | 194-3829 |
| 32 | 4 | 10876-2235 | 1161-3328 | 87-6092 | 72 | 2 | 14381-5029 | 1612-9988 | 197-1207 |
| 33 | 5 | 11234-8555 | 1197-6244 | 90-3470 | 73 | 3 | 14719-1349 | 1649-2904 | 199-8585 |
| 34 | 6 | 11593-4875 | 1233-9161 | 93-0848 | 74 | 4 | 15058-7669 | 1685-5821 | 202-5963 |
| 35 | 0 | 11952-1195 | 1270-2077 | 95-8226 | 75 | 5 | 15397-3989 | 1721-8737 | 205-3341 |
| 36 | 1 | 12310-7515 | 1306-4994 | 98-5604 | 76 | 6 | 15736-0309 | 1758-1654 | 208-0719 |
| 37 | 2 | 12669-3834 | 1342-7910 | 101-2981 | 77 | 0 | 16074-6629 | 1794-4570 | 210-8096 |
| 38 | 3 | 13028-0154 | 1379-0827 | 104-0359 | 78 | 1 | 16413-2948 | 1830-7487 | 213-5474 |
| 39 | 4 | 13386-6474 | 1415-3743 | 106-7737 | 79 | 2 | 16751-9268 | 1867-0403 | 216-2852 |
| 40 | 5 | 13745-2794 | 1451-6660 | 109-5115 | 80 | 3 | 17090-5588 | 1903-3320 | 219-0230 |

TABLE LIV-A—*contd.*

DAYS OF 24 HOURS EACH.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 81 | 4 | 7420-1908 | 939-6236 | 221-7608 | 136 | 3 | 6053-9590 | 925-9644 | 372-3391 |
| 82 | 5 | 7767-8228 | 975-9153 | 224-4986 | 137 | 4 | 6392-5820 | 971-9560 | 375-0769 |
| 83 | 6 | 8100-4548 | 12-2009 | 227-2364 | 138 | 5 | 6731-2140 | 8-2177 | 377-8147 |
| 84 | 0 | 8445-0867 | 48-4986 | 229-9742 | 139 | 6 | 7069-8469 | 41-5393 | 380-5525 |
| 85 | 1 | 8789-7187 | 84-7902 | 232-7119 | 140 | 0 | 7408-4780 | 80-8310 | 383-2903 |
| 86 | 2 | 9122-3507 | 121-0819 | 235-4497 | 141 | 1 | 7747-1099 | 117-1226 | 386-0281 |
| 87 | 3 | 9460-9827 | 157-3735 | 238-1875 | 142 | 2 | 8085-7419 | 153-4143 | 388-7658 |
| 88 | 4 | 9799-6147 | 193-6652 | 240-9253 | 143 | 3 | 8424-3739 | 189-7050 | 391-5036 |
| 89 | 5 | 128-2467 | 229-9568 | 243-6631 | 144 | 4 | 8763-0059 | 225-9976 | 394-2414 |
| 90 | 6 | 476-8787 | 266-2485 | 246-4009 | 145 | 5 | 9101-6379 | 262-2892 | 396-9792 |
| 91 | 0 | 815-5106 | 302-5401 | 249-1387 | 146 | 6 | 9440-2699 | 298-5800 | 399-7170 |
| 92 | 1 | 1154-1426 | 338-8318 | 251-8765 | 147 | 0 | 9778-9019 | 334-8725 | 402-4548 |
| 93 | 2 | 1492-7746 | 375-1234 | 254-6142 | 148 | 1 | 117-5338 | 371-1042 | 405-1926 |
| 94 | 3 | 1831-4066 | 411-4151 | 257-3520 | 149 | 2 | 459-1638 | 407-4558 | 407-6304 |
| 95 | 4 | 2170-0386 | 447-7067 | 260-0898 | 150 | 3 | 794-7978 | 443-7475 | 410-3681 |
| 96 | 5 | 2508-6706 | 483-9964 | 262-8276 | 151 | 4 | 1133-4298 | 480-6391 | 413-4659 |
| 97 | 6 | 2847-3026 | 520-2900 | 265-5654 | 152 | 5 | 1472-0618 | 516-3308 | 416-1437 |
| 98 | 0 | 3185-9246 | 556-5817 | 268-3032 | 153 | 6 | 1810-6938 | 552-6224 | 418-8815 |
| 99 | 1 | 3524-5666 | 592-8733 | 271-0410 | 154 | 0 | 2149-3258 | 588-9141 | 421-6193 |
| 100 | 2 | 3862-1985 | 629-1650 | 273-7788 | 155 | 1 | 2487-9577 | 625-2057 | 424-3571 |
| 101 | 3 | 4201-8305 | 665-4566 | 276-5165 | 156 | 2 | 2826-5897 | 661-4974 | 427-0949 |
| 102 | 4 | 4540-4625 | 701-7483 | 279-2543 | 157 | 3 | 3165-2217 | 697-7890 | 429-8327 |
| 103 | 5 | 4879-0945 | 738-0399 | 281-9921 | 158 | 4 | 3503-8537 | 734-0807 | 432-5705 |
| 104 | 6 | 5217-7265 | 774-3316 | 284-7299 | 159 | 5 | 3842-4857 | 770-3723 | 435-3082 |
| 105 | 0 | 5556-3586 | 810-6232 | 287-4677 | 160 | 6 | 4181-1177 | 806-6640 | 438-0460 |
| 106 | 1 | 5894-9905 | 846-9149 | 290-2055 | 161 | 0 | 4519-7497 | 842-9556 | 440-7838 |
| 107 | 2 | 6233-6224 | 883-2065 | 292-9433 | 162 | 1 | 4858-3816 | 879-2473 | 443-5216 |
| 108 | 3 | 6572-2544 | 919-4982 | 295-6811 | 163 | 2 | 5197-9136 | 915-5389 | 446-2594 |
| 109 | 4 | 6910-8864 | 955-7898 | 298-4189 | 164 | 3 | 5535-6456 | 951-8306 | 448-9972 |
| 110 | 5 | 7249-6184 | 992-0815 | 301-1566 | 165 | 4 | 5874-2776 | 988-1222 | 451-7350 |
| 111 | 6 | 7588-1504 | 28-3731 | 303-8944 | 166 | 5 | 6212-9096 | 24-4139 | 454-4728 |
| 112 | 0 | 7926-7824 | 64-6648 | 306-6322 | 167 | 6 | 6551-5416 | 69-7655 | 457-2106 |
| 113 | 1 | 8265-4144 | 100-9564 | 309-3700 | 168 | 0 | 6890-1735 | 96-9972 | 459-9483 |
| 114 | 2 | 8604-0465 | 137-2481 | 312-1078 | 169 | 1 | 7228-8055 | 133-2888 | 462-6861 |
| 115 | 3 | 8942-6783 | 173-5397 | 314-8456 | 170 | 2 | 7567-4375 | 169-5805 | 465-4239 |
| 116 | 4 | 9281-3103 | 209-8314 | 317-5834 | 171 | 3 | 7906-0696 | 205-8721 | 468-1617 |
| 117 | 5 | 9619-9423 | 246-1230 | 320-3212 | 172 | 4 | 8244-7015 | 242-1638 | 470-8995 |
| 118 | 6 | 9958-5743 | 282-4147 | 323-0590 | 173 | 5 | 8583-3335 | 278-4554 | 473-6373 |
| 119 | 0 | 297-2963 | 318-7063 | 325-7967 | 174 | 6 | 8921-9655 | 314-7471 | 476-3750 |
| 120 | 1 | 635-8382 | 354-9980 | 328-5345 | 175 | 0 | 9260-5974 | 351-9387 | 479-1128 |
| 121 | 2 | 974-4702 | 391-2896 | 331-2723 | 176 | 1 | 9599-2294 | 387-3304 | 481-8506 |
| 122 | 3 | 1313-1622 | 427-5813 | 334-0101 | 177 | 2 | 9937-8614 | 423-6220 | 484-5884 |
| 123 | 4 | 1651-7342 | 463-8729 | 336-7479 | 178 | 3 | 276-4934 | 459-9137 | 487-3262 |
| 124 | 5 | 1990-3662 | 500-1646 | 339-4857 | 179 | 4 | 615-1254 | 496-2053 | 490-0640 |
| 125 | 6 | 2328-9982 | 536-4562 | 342-2235 | 180 | 5 | 953-7574 | 532-4970 | 492-8018 |
| 126 | 0 | 2667-6302 | 572-7479 | 344-9613 | 181 | 6 | 1292-3894 | 569-7886 | 495-5396 |
| 127 | 1 | 3006-2621 | 609-0395 | 347-6990 | 182 | 0 | 1631-0215 | 605-0803 | 498-2773 |
| 128 | 2 | 3344-8641 | 645-3312 | 350-4368 | 183 | 1 | 1969-6533 | 641-3719 | 501-0151 |
| 129 | 3 | 3683-5261 | 681-6228 | 353-1746 | 184 | 2 | 2308-2853 | 677-6636 | 503-7529 |
| 130 | 4 | 4022-1581 | 717-9145 | 355-9124 | 185 | 3 | 2646-9173 | 713-9552 | 506-4907 |
| 131 | 5 | 4360-7901 | 754-2061 | 358-6502 | 186 | 4 | 2985-5493 | 750-2469 | 509-2285 |
| 132 | 6 | 4699-4221 | 790-4978 | 361-3880 | 187 | 5 | 3324-1813 | 786-5385 | 511-9663 |
| 133 | 0 | 5038-0541 | 826-7894 | 364-1258 | 188 | 6 | 3662-8133 | 822-8302 | 514-7041 |
| 134 | 1 | 5376-6860 | 863-0811 | 366-8635 | 189 | 0 | 4001-4452 | 859-1218 | 517-4419 |
| 135 | 2 | 5715-3180 | 899-3727 | 369-6013 | 190 | 1 | 4340-0772 | 895-4135 | 520-1796 |

TABLE LIV-A.—*contd.*

DAYS OF 24 HOURS EACH.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 191 | 2 | 4678-7092 | 931-7051 | 522-9174 | 241 | 3 | 1610-3085 | 746-2876 | 659-8068 |
| 192 | 3 | 5017-2412 | 967-9068 | 525-6552 | 242 | 4 | 1948-9405 | 782-5793 | 662-5446 |
| 193 | 4 | 5355-9732 | 4-2884 | 528-3930 | 243 | 5 | 2287-5725 | 818-8799 | 665-2824 |
| 194 | 5 | 5694-6052 | 40-5801 | 531-1308 | 244 | 6 | 2626-2044 | 855-1626 | 668-0292 |
| 195 | 6 | 6032-2372 | 76-8717 | 533-8686 | 245 | 0 | 2964-8364 | 891-4542 | 670-7589 |
| 196 | 0 | 6371-8691 | 113-1634 | 536-6064 | 246 | 1 | 3303-4684 | 927-7459 | 673-4938 |
| 197 | 1 | 6710-5011 | 149-4550 | 539-3442 | 247 | 2 | 3642-1004 | 964-6375 | 676-2335 |
| 198 | 2 | 7049-1331 | 185-7467 | 542-0820 | 248 | 3 | 3980-7324 | 0-3292 | 678-9713 |
| 199 | 3 | 7387-7651 | 222-0383 | 544-8197 | 249 | 4 | 4319-3644 | 36-6208 | 681-7091 |
| 200 | 4 | 7726-3971 | 258-3300 | 547-5575 | 250 | 5 | 4657-9064 | 72-9125 | 684-4469 |
| 201 | 5 | 8065-0291 | 294-6216 | 550-2053 | 251 | 6 | 4996-6253 | 109-2041 | 687-1847 |
| 202 | 6 | 8403-6611 | 330-9132 | 553-0331 | 252 | 0 | 5335-2603 | 145-4958 | 689-9225 |
| 203 | 0 | 8742-2930 | 367-2049 | 555-7709 | 253 | 1 | 5673-8923 | 181-7874 | 692-6603 |
| 204 | 1 | 9080-9250 | 403-4906 | 558-5087 | 254 | 2 | 6012-5243 | 218-0791 | 695-3980 |
| 205 | 2 | 9419-5370 | 439-7882 | 561-2465 | 255 | 3 | 6351-1563 | 254-3797 | 698-1358 |
| 206 | 3 | 9758-1890 | 476-0799 | 563-9843 | 256 | 4 | 6689-7883 | 290-6024 | 700-8736 |
| 207 | 4 | 96-8210 | 512-3716 | 566-7220 | 257 | 5 | 7028-4293 | 326-9549 | 703-6114 |
| 208 | 5 | 435-4530 | 548-6032 | 569-4598 | 258 | 6 | 7367-0522 | 363-2457 | 706-3492 |
| 209 | 6 | 774-0850 | 584-9048 | 572-1976 | 259 | 0 | 7706-6842 | 399-5373 | 709-0870 |
| 210 | 0 | 1112-7169 | 621-2465 | 574-9354 | 260 | 1 | 8044-3162 | 435-8289 | 711-8248 |
| 211 | 1 | 1451-3489 | 657-5381 | 577-6732 | 261 | 2 | 8382-9482 | 472-1306 | 714-5626 |
| 212 | 2 | 1789-9809 | 693-8298 | 580-4110 | 262 | 3 | 8721-5802 | 508-4122 | 717-3003 |
| 213 | 3 | 2128-6129 | 730-1214 | 583-1488 | 263 | 4 | 9060-2122 | 544-7039 | 720-0381 |
| 214 | 4 | 2467-2449 | 766-4131 | 585-8805 | 264 | 5 | 9398-8441 | 580-9955 | 722-7759 |
| 215 | 5 | 2805-8769 | 802-7047 | 588-6243 | 265 | 6 | 9737-4761 | 617-2872 | 725-5137 |
| 216 | 6 | 3144-3088 | 838-9064 | 591-3621 | 266 | 0 | 76-1081 | 653-5788 | 728-2515 |
| 217 | 0 | 3483-1408 | 875-2880 | 594-0999 | 267 | 1 | 414-7401 | 689-8705 | 730-9893 |
| 218 | 1 | 3821-7728 | 911-5797 | 596-8377 | 268 | 2 | 753-3721 | 726-1621 | 733-7271 |
| 219 | 2 | 4160-4048 | 947-8713 | 599-5755 | 269 | 3 | 1092-0941 | 762-4538 | 736-4649 |
| 220 | 3 | 4499-0368 | 984-1630 | 602-3133 | 270 | 4 | 1430-6361 | 798-7454 | 739-2026 |
| 221 | 4 | 4837-6688 | 90-4546 | 605-0510 | 271 | 5 | 1769-2680 | 835-0371 | 741-9404 |
| 222 | 5 | 5176-3008 | 56-7463 | 607-7888 | 272 | 6 | 2107-0900 | 871-3287 | 744-6782 |
| 223 | 6 | 5514-9327 | 93-0379 | 610-5266 | 273 | 0 | 2446-3320 | 907-6204 | 747-4160 |
| 224 | 0 | 5853-5647 | 129-3296 | 613-2644 | 274 | 1 | 2785-1640 | 943-9120 | 750-1538 |
| 225 | 1 | 6192-1967 | 165-6212 | 616-0022 | 275 | 2 | 3123-7960 | 980-2037 | 752-8916 |
| 226 | 2 | 6530-8287 | 201-9129 | 618-7400 | 276 | 3 | 3462-4280 | 16-4953 | 755-6294 |
| 227 | 3 | 6869-4607 | 238-2045 | 621-4778 | 277 | 4 | 3801-0600 | 52-7870 | 758-3672 |
| 228 | 4 | 7208-0927 | 274-4962 | 624-2156 | 278 | 5 | 4139-6919 | 89-0786 | 761-1050 |
| 229 | 5 | 7546-7247 | 310-7878 | 626-9534 | 279 | 6 | 4478-3239 | 125-3703 | 763-8428 |
| 230 | 6 | 7885-3566 | 347-0795 | 629-6911 | 280 | 0 | 4816-9559 | 161-6619 | 766-5805 |
| 231 | 0 | 8223-9886 | 383-3711 | 632-4289 | 281 | 1 | 5155-5879 | 197-9536 | 769-3183 |
| 232 | 1 | 8562-6306 | 419-6628 | 635-1667 | 282 | 2 | 5494-2199 | 234-2452 | 772-0561 |
| 233 | 2 | 8901-2526 | 455-9544 | 637-9045 | 283 | 3 | 5832-8519 | 270-5369 | 774-7939 |
| 234 | 3 | 9239-8846 | 492-2461 | 640-6423 | 284 | 4 | 6171-4839 | 306-8285 | 777-5317 |
| 235 | 4 | 9578-5166 | 528-5377 | 643-3801 | 285 | 5 | 6510-1158 | 343-1202 | 780-2695 |
| 236 | 5 | 9917-1486 | 564-8294 | 646-1179 | 286 | 6 | 6848-7478 | 379-4118 | 783-0073 |
| 237 | 6 | 25-7805 | 601-1210 | 648-8557 | 287 | 0 | 7187-3798 | 415-7033 | 785-7450 |
| 238 | 0 | 594-4123 | 637-4127 | 651-5935 | 288 | 1 | 7526-0118 | 451-9951 | 788-4828 |
| 239 | 1 | 933-0443 | 673-7043 | 654-3312 | 289 | 2 | 7864-6438 | 488-2868 | 791-2206 |
| 240 | 2 | 1271-8765 | 709-9960 | 657-0690 | 290 | 3 | 8203-2758 | 524-5784 | 793-9584 |

TABLE LIV-A—*concd.*

DAYS OF 24 HOURS EACH.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 291 | 4 | 8541-9078 | 500-8701 | 796-6962 | 341 | 5 | 5473-5070 | 375-4526 | 933-5856 |
| 292 | 5 | 8880-5397 | 597-1617 | 799-4340 | 342 | 6 | 5812-1390 | 411-7442 | 936-3233 |
| 293 | 6 | 9219-1717 | 633-4534 | 802-1718 | 343 | 0 | 6150-7710 | 448-0359 | 939-0611 |
| 294 | 0 | 9557-8037 | 669-7450 | 804-0906 | 344 | 1 | 6489-4030 | 484-3275 | 941-7959 |
| 295 | 1 | 9896-4357 | 706-0367 | 807-6473 | 345 | 2 | 6828-0350 | 520-6192 | 944-5367 |
| 296 | 2 | 235-0677 | 742-3283 | 810-3851 | 346 | 3 | 7166-6670 | 556-9108 | 947-2745 |
| 297 | 3 | 573-0997 | 778-6200 | 813-1229 | 347 | 4 | 7505-2989 | 593-2025 | 950-0123 |
| 298 | 4 | 912-3317 | 814-9116 | 815-8607 | 348 | 5 | 7843-9309 | 629-4941 | 952-7501 |
| 299 | 5 | 1250-9636 | 851-2033 | 818-5985 | 349 | 6 | 8182-5629 | 665-7858 | 955-4879 |
| 300 | 6 | 1589-5956 | 887-4949 | 821-3363 | 350 | 0 | 8521-1949 | 702-0774 | 958-2256 |
| 301 | 0 | 1928-2276 | 923-7866 | 824-0741 | 351 | 1 | 8859-8269 | 738-3691 | 960-9634 |
| 302 | 1 | 2266-8596 | 960-0782 | 826-8118 | 352 | 2 | 9189-4589 | 774-6607 | 963-7012 |
| 303 | 2 | 2605-4916 | 906-3099 | 329-5496 | 353 | 3 | 9537-0909 | 810-9524 | 966-4390 |
| 304 | 3 | 2944-1236 | 32-6615 | 832-2874 | 354 | 4 | 9875-7228 | 847-2440 | 969-1768 |
| 305 | 4 | 3282-7656 | 68-9532 | 835-0252 | 355 | 5 | 214-3548 | 883-5357 | 971-9146 |
| 306 | 5 | 3621-3875 | 105-2448 | 837-7630 | 356 | 6 | 552-9868 | 919-8273 | 974-6524 |
| 307 | 6 | 3960-0195 | 141-5365 | 840-5008 | 357 | 0 | 891-6188 | 956-1190 | 977-3902 |
| 308 | 0 | 4298-6515 | 177-8281 | 843-2386 | 358 | 1 | 1230-2508 | 992-4109 | 980-1289 |
| 309 | 1 | 4637-2835 | 214-1198 | 845-0764 | 359 | 2 | 1568-8828 | 28-7023 | 982-8658 |
| 310 | 2 | 4976-9155 | 250-4114 | 848-7141 | 360 | 3 | 1907-5147 | 64-9939 | 985-6035 |
| 311 | 3 | 5314-5475 | 286-7031 | 851-4519 | 361 | 4 | 2246-1467 | 101-2856 | 988-3413 |
| 312 | 4 | 5653-1794 | 322-9947 | 854-1897 | 362 | 5 | 2584-7787 | 137-5772 | 991-0791 |
| 313 | 5 | 5991-8114 | 359-2864 | 856-9275 | 363 | 6 | 2923-4107 | 173-8689 | 993-8169 |
| 314 | 6 | 6330-4434 | 395-5780 | 859-6653 | 364 | 0 | 3262-0427 | 210-1605 | 996-5547 |
| 315 | 0 | 6669-0754 | 431-8697 | 862-4031 | 365 | 1 | 3600-6747 | 246-4522 | 999-2925 |
| 316 | 1 | 7007-7074 | 468-1613 | 865-1409 | 366 | 2 | 3939-3067 | 282-7438 | 2-0302 |
| 317 | 2 | 7346-3394 | 504-4530 | 867-8787 | 367 | 3 | 4277-9386 | 319-0355 | 4-7680 |
| 318 | 3 | 7684-9714 | 540-7446 | 870-6165 | 368 | 4 | 4616-5706 | 355-3271 | 7-5058 |
| 319 | 4 | 8023-6033 | 577-0363 | 873-3543 | 369 | 5 | 4955-2026 | 391-6188 | 10-2436 |
| 320 | 5 | 8362-2363 | 613-3279 | 876-0920 | 370 | 6 | 5293-8346 | 427-9104 | 12-9814 |
| 321 | 6 | 8700-8073 | 649-6196 | 878-8298 | 371 | 0 | 5632-4666 | 464-2021 | 15-7192 |
| 322 | 0 | 9039-4993 | 685-9112 | 881-5676 | 372 | 1 | 5971-0086 | 500-4937 | 18-4570 |
| 323 | 1 | 9378-1313 | 722-2029 | 884-3054 | 373 | 2 | 6309-7306 | 536-7854 | 21-1948 |
| 324 | 2 | 9716-7633 | 758-4945 | 887-0432 | 374 | 3 | 6648-3625 | 573-0770 | 23-9326 |
| 325 | 3 | 55-3953 | 794-7862 | 889-7810 | 375 | 4 | 6986-9945 | 609-3687 | 26-6703 |
| 326 | 4 | 394-0272 | 831-0778 | 892-5188 | 376 | 5 | 7325-6265 | 645-6603 | 29-4081 |
| 327 | 5 | 732-6592 | 867-3695 | 895-2565 | 377 | 6 | 7664-2585 | 681-0520 | 32-1459 |
| 328 | 6 | 1071-2912 | 903-6611 | 897-9943 | 378 | 0 | 8002-8905 | 718-2436 | 34-8837 |
| 329 | 0 | 1409-9332 | 939-9528 | 900-7321 | 379 | 1 | 8341-5225 | 754-5353 | 37-6215 |
| 330 | 1 | 1748-5652 | 976-2444 | 903-4699 | 380 | 2 | 8680-1545 | 790-8269 | 40-3593 |
| 331 | 2 | 2087-1872 | 12-5361 | 906-2077 | 381 | 3 | 9018-7864 | 827-1186 | 43-0971 |
| 332 | 3 | 2425-8192 | 48-8277 | 908-9455 | 382 | 4 | 9357-4184 | 863-4102 | 45-8349 |
| 333 | 4 | 2764-4511 | 85-1194 | 911-6833 | 383 | 5 | 9696-0504 | 899-7019 | 48-5726 |
| 334 | 5 | 3103-9831 | 121-4110 | 914-4211 | 384 | 6 | 34-6824 | 935-9935 | 51-3104 |
| 335 | 6 | 3441-7151 | 157-7027 | 917-1588 | 385 | 0 | 373-3144 | 972-2852 | 54-0482 |
| 336 | 0 | 3780-3471 | 193-9043 | 919-8966 | | | | | |
| 337 | 1 | 4118-9791 | 230-2860 | 922-6344 | | | | | |
| 338 | 2 | 4457-6111 | 266-5776 | 925-3722 | | | | | |
| 339 | 3 | 4796-2431 | 302-8693 | 928-1100 | | | | | |
| 340 | 4 | 5134-8750 | 339-1609 | 930-8477 | | | | | |

TABLE LIV-B.

INCREASE OF a , b , c IN HOURS, MINUTES AND SECONDS. $(a$ in 10,000ths of circle, b and c in 1,000ths.)These Tables correspond to Table V, *Indian Calendar*, for hours and minutes.Increase in 1 hour— a , 14.109666059; b , 1.512150744; c , 0.114074481.Increase in 1 minute— a , 0.235161101; b , 0.025202533; c , 0.001901220.Increase in 1 second— a , 0.003919352; b , 0.000420042; c , 0.000031687.

HOURS.

| No. | a . | b . | c . | No. | a . | b . | c . | No. | a . | b . | c . |
|-----|----------|---------|--------|-----|----------|---------|--------|-----|----------|---------|--------|
| 1 | 14.1097 | 1.5122 | 0.1141 | 9 | 126.9870 | 13.6040 | 1.0267 | 17 | 239.8043 | 25.7066 | 1.9393 |
| 2 | 28.2195 | 3.0243 | 0.2281 | 10 | 141.0967 | 15.1215 | 1.1407 | 18 | 253.9740 | 27.2187 | 2.0533 |
| 3 | 42.3290 | 4.5365 | 0.3422 | 11 | 155.2063 | 16.6337 | 1.2548 | 19 | 268.0837 | 28.7309 | 2.1674 |
| 4 | 56.4387 | 6.0486 | 0.4563 | 12 | 169.3160 | 18.1458 | 1.3689 | 20 | 282.1933 | 30.2430 | 2.2815 |
| 5 | 70.5483 | 7.5608 | 0.5704 | 13 | 183.4257 | 19.6580 | 1.4830 | 21 | 296.3030 | 31.7552 | 2.3956 |
| 6 | 84.6580 | 9.0729 | 0.6844 | 14 | 197.5353 | 21.1701 | 1.5970 | 22 | 310.4127 | 33.2673 | 2.5096 |
| 7 | 98.7677 | 10.5851 | 0.7985 | 15 | 211.6450 | 22.6823 | 1.7111 | 23 | 324.5223 | 34.7795 | 2.6237 |
| 8 | 112.8773 | 12.0972 | 0.9126 | 16 | 225.7547 | 24.1944 | 1.8252 | 24 | 338.6320 | 36.2916 | 2.7378 |

MINUTES.

| No. | a . | b . | c . | No. | a . | b . | c . | No. | a . | b . | c . |
|-----|--------|--------|--------|-----|--------|--------|--------|-----|---------|--------|--------|
| 1 | 0.2352 | 0.0252 | 0.0019 | 21 | 4.9384 | 0.5293 | 0.0399 | 41 | 9.9416 | 1.0333 | 0.0780 |
| 2 | 0.4703 | 0.0504 | 0.0038 | 22 | 5.1735 | 0.5545 | 0.0418 | 42 | 9.8768 | 1.0585 | 0.0799 |
| 3 | 0.7055 | 0.0756 | 0.0057 | 23 | 5.4087 | 0.5797 | 0.0437 | 43 | 10.1119 | 1.0837 | 0.0818 |
| 4 | 0.9406 | 0.1008 | 0.0076 | 24 | 5.6439 | 0.6049 | 0.0456 | 44 | 10.3471 | 1.1089 | 0.0837 |
| 5 | 1.1758 | 0.1260 | 0.0095 | 25 | 5.8790 | 0.6301 | 0.0475 | 45 | 10.5822 | 1.1341 | 0.0856 |
| 6 | 1.4110 | 0.1512 | 0.0114 | 26 | 6.1142 | 0.6553 | 0.0494 | 46 | 10.8174 | 1.1593 | 0.0875 |
| 7 | 1.6461 | 0.1764 | 0.0133 | 27 | 6.3493 | 0.6805 | 0.0513 | 47 | 11.0526 | 1.1845 | 0.0894 |
| 8 | 1.8813 | 0.2016 | 0.0152 | 28 | 6.5845 | 0.7057 | 0.0532 | 48 | 11.2877 | 1.2097 | 0.0913 |
| 9 | 2.1164 | 0.2268 | 0.0171 | 29 | 6.8197 | 0.7309 | 0.0551 | 49 | 11.5229 | 1.2349 | 0.0932 |
| 10 | 2.3516 | 0.2520 | 0.0190 | 30 | 7.0548 | 0.7561 | 0.0570 | 50 | 11.7581 | 1.2601 | 0.0951 |
| 11 | 2.5868 | 0.2772 | 0.0209 | 31 | 7.2900 | 0.7813 | 0.0589 | 51 | 11.9932 | 1.2853 | 0.0970 |
| 12 | 2.8219 | 0.3024 | 0.0228 | 32 | 7.5252 | 0.8065 | 0.0608 | 52 | 12.2284 | 1.3105 | 0.0989 |
| 13 | 3.0571 | 0.3276 | 0.0247 | 33 | 7.7603 | 0.8317 | 0.0627 | 53 | 12.4635 | 1.3357 | 0.1008 |
| 14 | 3.2923 | 0.3528 | 0.0266 | 34 | 7.9955 | 0.8569 | 0.0646 | 54 | 12.6987 | 1.3609 | 0.1027 |
| 15 | 3.5274 | 0.3780 | 0.0285 | 35 | 8.2306 | 0.8821 | 0.0665 | 55 | 12.9339 | 1.3861 | 0.1046 |
| 16 | 3.7626 | 0.4032 | 0.0304 | 36 | 8.4658 | 0.9073 | 0.0684 | 56 | 13.1690 | 1.4113 | 0.1065 |
| 17 | 3.9977 | 0.4284 | 0.0323 | 37 | 8.7010 | 0.9325 | 0.0703 | 57 | 13.4042 | 1.4365 | 0.1084 |
| 18 | 4.2329 | 0.4536 | 0.0342 | 38 | 8.9361 | 0.9577 | 0.0722 | 58 | 13.6393 | 1.4617 | 0.1103 |
| 19 | 4.4681 | 0.4788 | 0.0361 | 39 | 9.1713 | 0.9829 | 0.0741 | 59 | 13.8745 | 1.4869 | 0.1122 |
| 20 | 4.7032 | 0.5041 | 0.0380 | 40 | 9.4064 | 1.0081 | 0.0760 | 60 | 14.1097 | 1.5122 | 0.1141 |

TABLE LIV B—*contd.*

SECONDS.

| No. | a. | b. | c. | No. | a. | b. | c. | No. | a. | b. | c. |
|-----|--------|--------|--------|-----|--------|--------|--------|-----|--------|--------|--------|
| 1 | 0.0930 | 0.0004 | 0.0000 | 21 | 0.0823 | 0.0088 | 0.0007 | 41 | 0.1607 | 0.0172 | 0.0013 |
| 2 | 0.0078 | 0.0008 | 0.0001 | 22 | 0.0862 | 0.0092 | 0.0007 | 42 | 0.1646 | 0.0176 | 0.0013 |
| 3 | 0.0118 | 0.0013 | 0.0001 | 23 | 0.0901 | 0.0097 | 0.0007 | 43 | 0.1685 | 0.0181 | 0.0014 |
| 4 | 0.0157 | 0.0017 | 0.0001 | 24 | 0.0941 | 0.0101 | 0.0008 | 44 | 0.1725 | 0.0185 | 0.0014 |
| 5 | 0.0196 | 0.0021 | 0.0002 | 25 | 0.0980 | 0.0105 | 0.0008 | 45 | 0.1764 | 0.0189 | 0.0014 |
| 6 | 0.0235 | 0.0025 | 0.0002 | 26 | 0.1019 | 0.0109 | 0.0008 | 46 | 0.1803 | 0.0193 | 0.0015 |
| 7 | 0.0274 | 0.0029 | 0.0002 | 27 | 0.1058 | 0.0113 | 0.0009 | 47 | 0.1842 | 0.0197 | 0.0015 |
| 8 | 0.0314 | 0.0034 | 0.0003 | 28 | 0.1097 | 0.0118 | 0.0009 | 48 | 0.1881 | 0.0202 | 0.0015 |
| 9 | 0.0353 | 0.0038 | 0.0003 | 29 | 0.1137 | 0.0122 | 0.0009 | 49 | 0.1920 | 0.0206 | 0.0016 |
| 10 | 0.0392 | 0.0042 | 0.0003 | 30 | 0.1176 | 0.0126 | 0.0010 | 50 | 0.1960 | 0.0210 | 0.0016 |
| 11 | 0.0431 | 0.0046 | 0.0003 | 31 | 0.1215 | 0.0130 | 0.0010 | 51 | 0.1999 | 0.0214 | 0.0016 |
| 12 | 0.0470 | 0.0050 | 0.0004 | 32 | 0.1254 | 0.0134 | 0.0010 | 52 | 0.2038 | 0.0218 | 0.0016 |
| 13 | 0.0510 | 0.0055 | 0.0004 | 33 | 0.1293 | 0.0139 | 0.0010 | 53 | 0.2077 | 0.0223 | 0.0017 |
| 14 | 0.0549 | 0.0059 | 0.0004 | 34 | 0.1333 | 0.0143 | 0.0011 | 54 | 0.2116 | 0.0227 | 0.0017 |
| 15 | 0.0588 | 0.0063 | 0.0005 | 35 | 0.1372 | 0.0147 | 0.0011 | 55 | 0.2156 | 0.0231 | 0.0017 |
| 16 | 0.0627 | 0.0067 | 0.0005 | 36 | 0.1411 | 0.0151 | 0.0011 | 56 | 0.2195 | 0.0235 | 0.0018 |
| 17 | 0.0666 | 0.0071 | 0.0005 | 37 | 0.1450 | 0.0155 | 0.0012 | 57 | 0.2234 | 0.0239 | 0.0018 |
| 18 | 0.0705 | 0.0076 | 0.0006 | 38 | 0.1489 | 0.0160 | 0.0012 | 58 | 0.2273 | 0.0244 | 0.0018 |
| 19 | 0.0745 | 0.0080 | 0.0006 | 39 | 0.1529 | 0.0164 | 0.0012 | 59 | 0.2312 | 0.0248 | 0.0019 |
| 20 | 0.0784 | 0.0084 | 0.0006 | 40 | 0.1568 | 0.0168 | 0.0013 | 60 | 0.2352 | 0.0252 | 0.0019 |

TABLE
THE MOON'S
Corresponding to "Equation b "

For either of the mean anomaly values given in cols. 2a, 2b, the equation and difference are as stated in cols. 3, 4. The equation col. 3, from "Arg. b " 0 to 300 or 0° to 180°, is the moon's greatest equation of the centre plus the actual equation, in 10,000ths of circle. (For the 24 base equations in degrees, etc., see Table I.I.X.)

| Base Equ. No. | Arg. b . | "Equation b ." | Diff. | Arg. b . | Base Equ. No. | Arg. b . | "Equation b ." | Diff. | Arg. b . |
|------------------|------------|---------------------|--------|------------|------------------|------------|---------------------|--------|------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 0-0 | 139-8717 | 1-8287 | 500-0 | 12 | 125-0 | 238-6631 | 1-2523 | 375-0 |
| | 2-083 | 141-7004 | | 497-916 | | 127-083 | 239-9153 | | 372-916 |
| | 4-16 | 143-5291 | | 495-83 | | 129-16 | 241-1676 | | 370-83 |
| | 6-25 | 145-3578 | | 493-75 | | 131-25 | 242-4199 | | 368-75 |
| | 8-3 | 147-1865 | | 491-6 | | 133-3 | 243-6722 | | 366-6 |
| 1 | 10-416 | 149-0152 | 1-8206 | 489-583 | 13 | 135-416 | 244-9244 | 1-1674 | 364-583 |
| | 12-5 | 150-8357 | | 487-5 | | 137-5 | 246-0919 | | 362-5 |
| | 14-583 | 152-0563 | | 485-416 | | 139-583 | 247-2593 | | 360-416 |
| | 16-6 | 154-4769 | | 483-3 | | 141-6 | 248-4268 | | 358-3 |
| | 18-75 | 156-2975 | | 481-25 | | 143-75 | 249-5942 | | 356-25 |
| 2 | 20-83 | 158-1180 | 1-8043 | 479-16 | 14 | 145-83 | 250-7616 | 1-0695 | 354-16 |
| | 22-916 | 159-9334 | | 477-083 | | 147-916 | 251-9311 | | 352-083 |
| | 25-0 | 161-7267 | | 475-0 | | 150-0 | 252-0906 | | 350-0 |
| | 27-083 | 163-5310 | | 472-916 | | 152-083 | 253-0701 | | 347-916 |
| | 29-16 | 165-3553 | | 470-83 | | 154-16 | 255-0396 | | 345-83 |
| 3 | 31-25 | 167-1397 | 1-7799 | 468-75 | 15 | 156-25 | 256-1090 | 0-9715 | 343-75 |
| | 33-3 | 168-9196 | | 466-6 | | 158-3 | 257-0805 | | 341-6 |
| | 35-416 | 170-6995 | | 464-583 | | 160-416 | 258-0520 | | 339-583 |
| | 37-5 | 172-4793 | | 462-5 | | 162-5 | 259-0235 | | 337-5 |
| | 39-583 | 174-2594 | | 460-416 | | 164-583 | 259-9950 | | 335-416 |
| 4 | 41-6 | 176-0393 | 1-7474 | 458-3 | 16 | 166-6 | 260-9664 | 0-8658 | 333-3 |
| | 43-75 | 177-7808 | | 456-25 | | 168-75 | 261-8322 | | 331-25 |
| | 45-83 | 179-5342 | | 454-16 | | 170-83 | 262-6980 | | 329-16 |
| | 47-916 | 181-2816 | | 452-083 | | 172-916 | 263-5638 | | 327-083 |
| | 50-0 | 183-0291 | | 450-0 | | 175-0 | 264-4296 | | 325-0 |
| 5 | 52-083 | 184-7765 | 1-7068 | 447-916 | 17 | 177-083 | 265-2953 | 0-7588 | 322-916 |
| | 54-16 | 186-4833 | | 445-83 | | 179-16 | 266-0541 | | 320-83 |
| | 56-25 | 188-1901 | | 443-75 | | 181-25 | 266-8129 | | 318-75 |
| | 58-3 | 189-8969 | | 441-6 | | 183-3 | 267-5717 | | 316-6 |
| | 60-416 | 191-6036 | | 439-583 | | 185-416 | 268-3305 | | 314-583 |
| 6 | 62-5 | 193-3104 | 1-6662 | 437-5 | 18 | 187-5 | 269-0893 | 0-6440 | 312-5 |
| | 64-583 | 194-9766 | | 435-416 | | 189-583 | 269-7332 | | 310-416 |
| | 66-6 | 196-6427 | | 433-3 | | 191-6 | 270-3772 | | 308-3 |
| | 68-75 | 198-3089 | | 431-25 | | 193-75 | 271-0211 | | 306-25 |
| | 70-83 | 199-9750 | | 429-16 | | 195-83 | 271-6651 | | 304-16 |
| 7 | 72-916 | 201-6412 | 1-6175 | 427-083 | 19 | 197-916 | 272-3090 | 0-5327 | 302-083 |
| | 75-0 | 203-2586 | | 425-0 | | 200-0 | 272-8417 | | 300-0 |
| | 77-083 | 204-8761 | | 422-916 | | 202-083 | 273-3745 | | 297-916 |
| | 79-16 | 206-4936 | | 420-83 | | 204-6 | 273-9072 | | 295-83 |
| | 81-25 | 208-1110 | | 418-75 | | 206-25 | 274-4399 | | 293-75 |
| 8 | 83-3 | 209-7285 | 1-5523 | 416-6 | 20 | 208-3 | 274-9726 | 0-4153 | 291-6 |
| | 85-416 | 211-2808 | | 414-583 | | 210-416 | 275-3879 | | 289-583 |
| | 87-5 | 212-8331 | | 412-5 | | 212-5 | 275-8033 | | 287-5 |
| | 89-583 | 214-3854 | | 410-416 | | 214-583 | 276-2186 | | 285-416 |
| | 91-6 | 215-9377 | | 408-3 | | 216-6 | 276-6339 | | 283-3 |
| 9 | 93-75 | 217-4900 | 1-4873 | 406-25 | 21 | 218-75 | 277-0492 | 0-3021 | 281-25 |
| | 95-83 | 218-9773 | | 404-16 | | 220-83 | 277-3513 | | 279-16 |
| | 97-916 | 220-4646 | | 402-083 | | 222-916 | 277-6534 | | 277-083 |
| | 100-0 | 221-9519 | | 400-0 | | 225-0 | 277-9554 | | 275-0 |
| | 102-083 | 223-4393 | | 397-916 | | 227-083 | 278-2575 | | 272-916 |
| 10 | 104-16 | 224-9266 | 1-4142 | 395-83 | 22 | 229-16 | 278-5595 | 0-1796 | 270-83 |
| | 106-25 | 226-3408 | | 393-75 | | 231-25 | 278-7391 | | 268-75 |
| | 108-3 | 227-7550 | | 391-6 | | 233-3 | 278-9188 | | 266-6 |
| | 110-416 | 229-1693 | | 389-583 | | 235-416 | 279-0984 | | 264-583 |
| | 112-5 | 230-5835 | | 387-5 | | 237-5 | 279-2780 | | 262-5 |
| 11 | 114-583 | 231-9977 | 1-3331 | 385-416 | 23 | 239-583 | 279-4576 | 0-0571 | 260-416 |
| | 116-6 | 233-3308 | | 383-3 | | 241-6 | 279-6147 | | 258-3 |
| | 118-75 | 234-6638 | | 381-25 | | 243-75 | 279-3719 | | 256-25 |
| | 120-83 | 235-9969 | | 379-16 | | 245-83 | 279-6290 | | 254-16 |
| | 122-916 | 237-3300 | | 377-083 | | 247-916 | 279-6862 | | 252-083 |
| | | | | | 24 | 250-0 | 279-7433 | | 250-0 |

LV.

" EQUATION *b* "in Table VI, "*Indian Calendar*."

The equation, col. 3, from "*Arg. b*" 500 to 1000, or 180° to 360° , is the moon's greatest equationⁿ of the centre *minus* the actual equation, stated in 10,000ths of the circle.

| Base Equ. No. | Arg. <i>b</i> . | "Equatio <i>b</i> ." | Diff. | Arg. <i>b</i> . | Base Equ. No. | Arg. <i>b</i> . | "Equatio <i>b</i> ." | Diff. | Arg. <i>b</i> . |
|------------------|-----------------|-------------------------|--------|-----------------|------------------|-----------------|-------------------------|--------|-----------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 500-0 | 139-8717 | 1-8287 | 1000-0 | 12 | 625-0 | 41-0902 | 1-2523 | 875-0 |
| | 502-083 | 138-0429 | | 997-916 | | 627-083 | 39-8280 | | 872-916 |
| | 504-16 | 136-2142 | | 995-83 | | 629-16 | 38-5757 | | 870-83 |
| | 506-25 | 134-3855 | | 993-75 | | 631-25 | 37-3234 | | 868-75 |
| | 508-3 | 132-5568 | 1-8206 | 991-6 | | 633-3 | 36-0711 | 1-1674 | 866-6 |
| 1 | 510-416 | 130-7281 | | 989-583 | 13 | 635-416 | 34-8188 | | 864-583 |
| | 512-5 | 128-9076 | | 987-5 | | 637-5 | 33-5614 | | 862-5 |
| | 514-583 | 127-0870 | | 985-416 | | 639-583 | 32-4840 | | 860-416 |
| | 516-6 | 125-2664 | 1-8043 | 983-3 | | 641-6 | 31-3165 | 1-0095 | 858-3 |
| | 518-75 | 123-4458 | | 981-25 | | 643-75 | 30-1491 | | 856-25 |
| 2 | 520-83 | 121-6253 | | 979-16 | 14 | 645-83 | 28-9817 | | 854-16 |
| | 522-916 | 119-8209 | | 977-083 | | 647-916 | 27-9122 | | 852-083 |
| | 525-0 | 118-0166 | 1-7800 | 975-0 | | 650-0 | 26-8427 | 0-9715 | 850-0 |
| | 527-083 | 116-2123 | | 972-016 | | 652-083 | 25-7732 | | 847-916 |
| | 529-16 | 114-4080 | | 970-83 | | 654-16 | 24-7037 | | 845-83 |
| 3 | 531-25 | 112-6036 | | 968-75 | 15 | 656-25 | 23-6343 | 0-8658 | 843-75 |
| | 533-3 | 110-8237 | 1-7474 | 966-6 | | 658-3 | 22-5628 | | 841-6 |
| | 535-416 | 109-0438 | | 964-583 | | 660-416 | 21-4913 | | 839-583 |
| | 537-5 | 107-2638 | | 962-5 | | 662-5 | 20-7198 | | 837-5 |
| | 539-583 | 105-4839 | 1-7068 | 960-416 | 16 | 664-583 | 19-7483 | 0-7588 | 835-416 |
| 4 | 541-6 | 103-7040 | | 958-3 | | 666-6 | 18-7769 | | 833-3 |
| | 543-75 | 101-9565 | | 956-25 | | 668-75 | 17-9111 | | 831-25 |
| | 545-83 | 100-2091 | | 954-16 | | 670-83 | 17-0453 | | 829-16 |
| | 547-916 | 98-4617 | 1-6662 | 952-083 | 17 | 672-916 | 16-1795 | 0-6440 | 827-083 |
| | 550-0 | 96-7142 | | 950-0 | | 675-0 | 15-3137 | | 825-0 |
| | 552-083 | 94-9668 | | 947-916 | | 677-083 | 14-4480 | | 822-916 |
| | 554-16 | 93-2000 | | 945-83 | | 679-16 | 13-6892 | 0-5327 | 820-83 |
| | 556-25 | 91-5532 | 1-6062 | 943-75 | 18 | 681-25 | 12-9304 | | 818-75 |
| | 558-3 | 89-8464 | | 941-6 | | 683-3 | 12-1716 | | 816-6 |
| | 560-416 | 88-1397 | | 939-583 | | 685-416 | 11-4126 | | 814-583 |
| 5 | 562-5 | 86-4329 | 1-5523 | 937-5 | 19 | 687-5 | 10-6540 | 0-4153 | 812-5 |
| | 564-583 | 84-7667 | | 935-416 | | 689-583 | 10-0101 | | 810-416 |
| | 566-6 | 83-1006 | | 933-3 | | 691-6 | 9-3661 | | 808-3 |
| | 568-75 | 81-4344 | | 931-25 | | 693-75 | 8-7222 | 0-3021 | 806-25 |
| | 570-83 | 79-7683 | 1-5023 | 929-16 | 20 | 695-83 | 8-0782 | | 804-16 |
| | 572-916 | 78-1021 | | 927-083 | | 697-916 | 7-4343 | | 802-083 |
| | 575-0 | 76-4847 | | 925-0 | | 700-0 | 6-9016 | | 800-0 |
| | 577-083 | 74-8672 | | 922-916 | | 702-083 | 6-3688 | 0-1760 | 797-916 |
| | 579-16 | 73-2497 | 1-4873 | 920-83 | 21 | 704-6 | 5-8361 | | 795-83 |
| | 581-25 | 71-6323 | | 918-75 | | 706-25 | 5-3034 | | 793-75 |
| | 583-3 | 70-0148 | | 916-6 | | 708-3 | 4-7707 | | 791-6 |
| | 585-416 | 68-4625 | 1-4442 | 914-583 | 22 | 710-416 | 4-3554 | 0-0571 | 789-583 |
| | 587-5 | 66-9102 | | 912-5 | | 712-5 | 3-9450 | | 787-5 |
| | 589-583 | 65-3579 | | 910-416 | | 714-583 | 3-5247 | | 785-416 |
| | 591-6 | 63-8057 | | 908-3 | | 716-6 | 3-1094 | 0-0071 | 783-3 |
| | 593-75 | 62-2533 | 1-4142 | 906-25 | 23 | 718-75 | 2-6941 | | 781-25 |
| | 595-83 | 60-7660 | | 904-16 | | 720-83 | 2-3920 | | 779-16 |
| | 597-916 | 59-2787 | | 902-083 | | 722-916 | 2-0859 | | 777-083 |
| | 600-0 | 57-7914 | 1-3331 | 900-0 | 24 | 725-0 | 1-7879 | 0-0071 | 775-0 |
| | 602-083 | 56-3040 | | 897-916 | | 727-083 | 1-4858 | | 772-916 |
| | 604-16 | 54-8167 | | 895-83 | | 729-16 | 1-1838 | | 770-83 |
| | 606-25 | 53-4025 | | 893-75 | | 731-25 | 1-0042 | 0-0071 | 768-75 |
| | 608-3 | 51-9883 | 1-3331 | 891-6 | | 733-3 | 0-8245 | | 766-6 |
| | 610-416 | 50-5741 | | 889-583 | | 735-416 | 0-6449 | | 764-583 |
| | 612-5 | 49-1598 | | 887-5 | | 737-5 | 0-4653 | | 762-5 |
| | 614-583 | 47-7456 | | 885-416 | | 739-583 | 0-2857 | 0-0071 | 760-416 |
| | 616-6 | 46-4125 | 1-3331 | 883-3 | | 741-6 | 0-2280 | | 758-3 |
| | 618-75 | 45-0795 | | 881-25 | | 743-75 | 0-1714 | | 756-25 |
| | 620-83 | 43-7464 | | 879-16 | | 745-83 | 0-1143 | | 754-16 |
| | 622-916 | 42-4133 | | 877-083 | | 747-916 | 0-0671 | | 752-083 |
| | | | | | | 750-0 | 0-0 | | 750-0 |

TABLE
THE SUN'S
Corresponding to "Equation e "

For either of the mean anom. values given in cols. 2a or 2b the equation and difference are as stated in cols. 3, 4. The equation, col. 3, from "Arg. e " 0 to 500 or 0 to 180°, is the Sun's greatest equation of the centre minus the actual equation, in 10,000ths of circle. (For the 24 base-equations see Table XLVII above, Vol. XIV, also Prof. Jacob's Table XXV, *Epig. Ind.* I, p. 349.)

| Base Equ. No. | Arg. e | Equation e | Diff. | Arg. e | Base Equ. No. | Arg. e | Equation e | Diff. | Arg. e |
|---------------|----------|--------------|--------|----------|---------------|----------|--------------|--------|----------|
| 1 | a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 0-0 | 00-4244 | 0-7909 | 500-0 | 12 | 125-0 | 17-6983 | 0-3421 | 373-0 |
| | 2-083 | 39-6335 | | 497-916 | | 127-083 | 17-1564 | | 372-916 |
| | 4-16 | 58-8426 | | 495-83 | | 129-16 | 16-6143 | | 370-83 |
| | 6-25 | 58-0517 | | 493-75 | | 131-25 | 16-0722 | | 368-75 |
| | 8-3 | 57-2608 | | 491-6 | | 133-3 | 15-5301 | | 366-6 |
| 1 | 10-416 | 56-4699 | 0-7874 | 489-583 | 13 | 135-416 | 14-9880 | 0-5015 | 364-583 |
| | 12-5 | 55-6825 | | 487-5 | | 137-5 | 14-4461 | | 362-5 |
| | 14-583 | 54-8951 | | 485-416 | | 139-583 | 13-9042 | | 360-416 |
| | 16-6 | 54-1078 | | 483-3 | | 141-6 | 13-3623 | | 358-3 |
| | 18-75 | 53-3204 | | 481-25 | | 143-75 | 12-8205 | | 356-25 |
| 2 | 20-83 | 52-5330 | 0-7804 | 479-16 | 14 | 145-83 | 12-2786 | 0-4605 | 354-16 |
| | 22-916 | 51-7527 | | 477-083 | | 147-916 | 12-0181 | | 352-083 |
| | 25-0 | 50-9723 | | 475-0 | | 150-0 | 11-5576 | | 350-0 |
| | 27-083 | 50-1920 | | 472-916 | | 152-083 | 11-0971 | | 347-916 |
| | 29-16 | 49-4116 | | 470-83 | 15 | 154-16 | 10-6367 | 0-4183 | 345-83 |
| 3 | 31-25 | 48-6313 | 0-7668 | 468-75 | | 156-25 | 10-1762 | | 343-75 |
| | 33-3 | 47-8515 | | 466-6 | | 158-3 | 9-7579 | | 341-6 |
| | 35-416 | 47-0916 | | 464-583 | | 160-416 | 9-3396 | | 339-583 |
| | 37-5 | 46-3218 | | 462-5 | | 162-5 | 8-9213 | | 337-5 |
| | 39-583 | 45-5520 | | 460-416 | 16 | 164-583 | 8-5030 | 0-3726 | 335-416 |
| 4 | 41-6 | 44-7822 | 0-7557 | 458-3 | | 166-6 | 8-0847 | | 333-3 |
| | 43-75 | 44-0265 | | 456-25 | | 168-75 | 7-7121 | | 331-25 |
| | 45-83 | 43-2707 | | 454-16 | | 170-83 | 7-3395 | | 329-16 |
| | 47-916 | 42-5150 | | 452-083 | | 172-916 | 6-9669 | | 327-083 |
| | 50-0 | 41-7593 | | 450-0 | 17 | 175-0 | 6-5943 | 0-3269 | 325-0 |
| 5 | 52-083 | 41-0035 | 0-7282 | 447-916 | | 177-083 | 6-2217 | | 322-916 |
| | 54-16 | 40-2633 | | 445-83 | | 179-16 | 5-8498 | | 320-83 |
| | 56-25 | 39-5272 | | 443-75 | | 181-25 | 5-4679 | | 318-75 |
| | 58-3 | 38-7890 | | 441-6 | | 183-3 | 5-0846 | | 316-6 |
| | 60-416 | 38-0508 | | 439-583 | 18 | 185-416 | 4-6914 | 0-2777 | 314-583 |
| 6 | 62-5 | 37-3127 | 0-7206 | 437-5 | | 187-5 | 4-2872 | | 312-5 |
| | 64-583 | 36-5921 | | 435-416 | | 189-583 | 3-8905 | | 310-416 |
| | 66-6 | 35-8715 | | 433-3 | | 191-6 | 3-4918 | | 308-3 |
| | 68-75 | 35-1509 | | 431-25 | | 193-75 | 3-7541 | | 306-25 |
| | 70-83 | 34-4303 | | 429-16 | 19 | 195-83 | 3-4764 | 0-2285 | 304-16 |
| 7 | 72-916 | 33-7097 | 0-6995 | 427-083 | | 197-916 | 3-1987 | | 302-083 |
| | 75-0 | 33-1012 | | 425-0 | | 200-0 | 2-9703 | | 300-0 |
| | 77-083 | 32-3107 | | 422-916 | | 202-083 | 2-7418 | | 297-916 |
| | 79-16 | 31-6112 | | 420-83 | | 204-16 | 2-5133 | | 295-83 |
| | 81-25 | 30-9117 | | 418-75 | 20 | 206-25 | 2-2848 | 0-1801 | 293-75 |
| 8 | 83-3 | 30-2122 | 0-6714 | 416-6 | | 208-3 | 2-0563 | | 291-6 |
| | 85-416 | 29-5408 | | 414-583 | | 210-416 | 1-8771 | | 289-583 |
| | 87-5 | 28-8694 | | 412-5 | | 212-5 | 1-6978 | | 287-5 |
| | 89-583 | 28-1980 | | 410-416 | | 214-583 | 1-5185 | | 285-416 |
| | 91-6 | 27-3267 | | 408-3 | 21 | 216-6 | 1-3393 | 0-0773 | 283-3 |
| 9 | 93-75 | 26-8553 | 0-6433 | 406-25 | | 218-75 | 1-1600 | | 281-25 |
| | 95-83 | 26-2120 | | 404-16 | | 220-83 | 1-0299 | | 279-16 |
| | 97-916 | 25-5688 | | 402-083 | | 222-916 | 0-8999 | | 277-083 |
| | 100-0 | 24-9255 | | 400-0 | | 225-0 | 0-7698 | | 275-0 |
| | 102-083 | 24-2822 | | 397-916 | 22 | 227-083 | 0-6397 | 0-0246 | 272-916 |
| 10 | 104-16 | 23-6390 | 0-6116 | 395-83 | | 229-16 | 0-5097 | | 270-83 |
| | 106-25 | 23-0274 | | 393-75 | | 231-25 | 0-4324 | | 268-75 |
| | 108-3 | 22-4157 | | 391-6 | | 233-3 | 0-3550 | | 266-6 |
| | 110-416 | 21-8041 | | 389-583 | | 235-416 | 0-2777 | | 264-583 |
| | 112-5 | 21-1925 | | 387-5 | 23 | 237-5 | 0-2004 | 0-0246 | 262-5 |
| 11 | 114-583 | 20-5808 | 0-5765 | 385-416 | | 239-583 | 0-1230 | | 260-416 |
| | 116-6 | 20-0044 | | 383-3 | | 241-6 | 0-0984 | | 258-3 |
| | 118-75 | 19-4279 | | 381-25 | | 243-75 | 0-0738 | | 256-25 |
| | 120-83 | 18-8514 | | 379-16 | | 245-83 | 0-0492 | | 254-16 |
| | 122-916 | 18-2750 | | 377-083 | | 247-916 | 0-0246 | | 252-083 |
| | | | | | 24 | 250-0 | 0-0 | | 250-0 |

LVI.

" EQUATION e "in Table VII, "*Indian Calendar*."From " Arg. e " 500 to 1000 or 180° to 360° the equation (col. 3) is the Sun's greatest equation of the centre *plus* the actual equation, stated in 10,000ths of the circle.

| Base Eqn. No. | Arg. e . | Equation e . | Diff. | Arg. e . | Base Eqn. No. | Arg. e . | Equation e . | Diff. | Arg. e . |
|------------------|------------|-------------------|--------|------------|------------------|------------|-------------------|--------|------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 500-0 | 60-4244 | 0-7900 | 1000-0 | 12 | 625-0 | 103-1503 | 0-5421 | 875-0 |
| | 502-083 | 61-2153 | | 997-916 | | 627-083 | 103-6924 | | 872-916 |
| | 504-16 | 62-0062 | | 995-83 | | 629-16 | 104-2345 | | 870-83 |
| | 506-25 | 62-7971 | | 993-75 | | 631-25 | 104-7766 | | 868-75 |
| 1 | 508-3 | 63-5880 | 0-7874 | 991-6 | 13 | 633-3 | 105-3187 | 0-5019 | 866-6 |
| | 510-416 | 64-3789 | | 989-583 | | 635-416 | 105-8608 | | 864-583 |
| | 512-5 | 65-1692 | | 987-5 | | 637-5 | 106-4027 | | 862-5 |
| | 514-583 | 65-9536 | | 985-416 | | 639-583 | 106-9445 | | 860-416 |
| | 516-6 | 66-7410 | 0-7804 | 983-3 | | 641-6 | 107-4864 | 0-4605 | 858-3 |
| | 518-75 | 67-5284 | | 981-25 | | 643-75 | 107-10283 | | 856-25 |
| | 520-83 | 68-3158 | | 979-16 | 14 | 645-83 | 108-3702 | | 854-16 |
| | 522-916 | 69-1061 | | 977-083 | | 647-916 | 108-8307 | | 852-083 |
| 2 | 525-0 | 69-8765 | 0-7698 | 975-0 | | 650-0 | 109-2912 | 0-4183 | 850-0 |
| | 527-083 | 70-6568 | | 972-916 | | 652-083 | 109-7516 | | 847-916 |
| | 529-16 | 71-4372 | | 970-83 | 15 | 654-16 | 110-2121 | | 845-83 |
| | 531-25 | 72-2175 | | 968-75 | | 656-25 | 110-6726 | | 843-75 |
| | 533-3 | 72-9873 | 0-7557 | 966-6 | | 658-3 | 111-1330 | 0-3726 | 841-6 |
| | 535-416 | 73-7571 | | 964-583 | | 660-416 | 111-5932 | | 839-583 |
| | 537-5 | 74-5269 | | 962-5 | 16 | 662-5 | 112-1048 | | 837-5 |
| | 539-583 | 75-2967 | | 960-416 | | 664-583 | 112-5658 | | 835-416 |
| 3 | 541-6 | 76-0665 | 0-7382 | 958-3 | | 666-6 | 113-1071 | 0-3269 | 833-3 |
| | 543-75 | 76-8323 | | 956-25 | | 668-75 | 113-5687 | | 831-25 |
| | 545-83 | 77-5980 | | 954-16 | | 670-83 | 114-1093 | | 829-16 |
| | 547-916 | 78-3638 | | 952-083 | 17 | 672-916 | 114-6271 | | 827-083 |
| | 550-0 | 79-1295 | 0-7206 | 950-0 | | 675-0 | 115-1505 | 0-2777 | 825-0 |
| | 552-083 | 79-8952 | | 947-916 | | 677-083 | 115-6721 | | 822-916 |
| | 554-16 | 80-6609 | | 945-83 | | 679-16 | 116-1940 | | 820-83 |
| | 556-25 | 81-4266 | | 943-75 | 18 | 681-25 | 116-7159 | | 818-75 |
| | 558-3 | 82-1923 | 0-6965 | 941-6 | | 683-3 | 117-2378 | 0-2285 | 816-6 |
| | 560-416 | 82-9579 | | 939-583 | | 685-416 | 117-7597 | | 814-583 |
| | 562-5 | 83-7236 | | 937-5 | | 687-5 | 118-2816 | | 812-5 |
| | 564-583 | 84-4892 | | 935-416 | 19 | 689-583 | 118-8035 | | 810-416 |
| | 566-6 | 85-2549 | 0-6605 | 933-3 | | 691-6 | 119-3254 | 0-1793 | 808-3 |
| | 568-75 | 86-0206 | | 931-25 | | 693-75 | 119-8473 | | 806-25 |
| | 570-83 | 86-7863 | | 929-16 | | 695-83 | 120-3692 | | 804-16 |
| | 572-916 | 87-5520 | | 927-083 | 20 | 697-916 | 120-8911 | | 802-083 |
| 4 | 575-0 | 88-3177 | 0-6433 | 925-0 | | 700-0 | 121-4130 | 0-1391 | 800-0 |
| | 577-083 | 89-0834 | | 922-916 | | 702-083 | 121-9349 | | 797-916 |
| | 579-16 | 89-8491 | | 920-83 | | 704-16 | 122-4568 | | 795-83 |
| | 581-25 | 90-6148 | | 918-75 | | 706-25 | 122-9787 | | 793-75 |
| | 583-3 | 91-3805 | 0-6174 | 916-6 | | 708-3 | 123-5006 | 0-0973 | 791-6 |
| | 585-416 | 92-1462 | | 914-583 | | 710-416 | 124-0225 | | 789-583 |
| | 587-5 | 92-9119 | | 912-5 | | 712-5 | 124-5444 | | 787-5 |
| | 589-583 | 93-6776 | | 910-416 | 21 | 714-583 | 125-0663 | | 785-416 |
| | 591-6 | 94-4433 | 0-6116 | 908-3 | | 716-6 | 125-5882 | 0-0240 | 783-3 |
| | 593-75 | 95-2090 | | 906-25 | | 718-75 | 126-1101 | | 781-25 |
| | 595-83 | 95-9747 | | 904-16 | | 720-83 | 126-6320 | | 779-16 |
| | 597-916 | 96-7404 | | 902-083 | 22 | 722-916 | 127-1539 | | 777-083 |
| | 600-0 | 97-5061 | 0-6116 | 900-0 | | 725-0 | 127-6758 | 0-0240 | 775-0 |
| | 602-083 | 98-2718 | | 897-916 | | 727-083 | 128-1977 | | 772-916 |
| | 604-16 | 99-0375 | | 895-83 | | 729-16 | 128-7196 | | 770-83 |
| | 606-25 | 99-8032 | | 893-75 | 23 | 731-25 | 129-2415 | | 768-75 |
| | 608-3 | 100-5689 | 0-5765 | 891-6 | | 733-3 | 129-7634 | 0-0240 | 766-6 |
| | 610-416 | 101-3346 | | 889-583 | | 735-416 | 130-2853 | | 764-583 |
| | 612-5 | 102-1003 | | 887-5 | | 737-5 | 130-8072 | | 762-5 |
| | 614-583 | 102-8660 | | 885-416 | | 739-583 | 131-3291 | | 760-416 |
| | 616-6 | 103-6317 | 0-5765 | 883-3 | 24 | 741-6 | 131-8510 | 0-0240 | 758-3 |
| | 618-75 | 104-3974 | | 881-25 | | 743-75 | 132-3729 | | 756-25 |
| | 620-83 | 105-1631 | | 879-16 | | 745-83 | 132-8948 | | 754-16 |
| | 622-916 | 105-9288 | | 877-083 | | 747-916 | 133-4167 | | 752-083 |
| | | | | | | 750-0 | 133-9386 | | 750 |

TABLE LVII A.

VALUE OF a , b , c AT BEGINNING OF KALIYUGA CENTURIES.Corresponding to Prof. Jacobi's Table IX B (Vol. XI above.)
but framed for two days earlier in each century.

| Century K. Y. | Week day. | a . | b . | c . |
|------------------|--------------|-----------|----------|----------|
| 42 | 6 | 49-0437 | 626-9004 | 276-4176 |
| 43 | 5 | 8582-3109 | 179-4088 | 277-0270 |
| 44 | 5 | 7454-2161 | 768-2089 | 277-3743 |
| 45 | 5 | 6326-1092 | 357-0090 | 277-7215 |
| 46 | 5 | 5198-0084 | 945-8091 | 278-0688 |
| 47 | 5 | 4069-9075 | 534-6091 | 278-4160 |
| 48 | 5 | 2941-8067 | 123-4092 | 278-7632 |
| 49 | 5 | 1831-7059 | 712-2093 | 279-1104 |
| 50 | 4 | 346-9731 | 294-7177 | 279-7199 |

TABLE LVII B.

INCREASE OF a , b , c FOR YEARS OF THE KALIYUGA.Corresponding to Prof. Jacobi's Table X *Epig. Ind.*, Vol. XI, p. 168.

* Years of 366 days.

| Year. | Week day. | a . | b . | c . | Year. | Week day. | a . | b . | c . |
|-------|--------------|-----------|----------|----------|-------|--------------|-----------|----------|----------|
| 0 | 0 | 0 | 0 | 0 | 31 | 4 | 4329-9708 | 930-3505 | 999-9683 |
| 1 | 1 | 3600-6747 | 245-4522 | 999-2925 | 32 | 5 | 7930-6455 | 179-8027 | 999-2608 |
| *2 | 2 | 7201-3494 | 492-9043 | 998-5849 | *33 | 6 | 1531-3202 | 423-2549 | 998-5533 |
| 3 | 4 | 1140-6560 | 775-6482 | 0-6151 | 34 | 1 | 5470-6268 | 705-9987 | 0-5835 |
| 4 | 5 | 4741-3307 | 22-1003 | 999-9076 | 35 | 2 | 9071-3015 | 952-4509 | 999-8759 |
| 5 | 6 | 8242-0054 | 268-5525 | 999-2901 | 36 | 3 | 2671-9762 | 198-9030 | 999-1684 |
| *6 | 0 | 1942-6800 | 515-0047 | 998-4925 | *37 | 4 | 6272-6509 | 445-3552 | 998-4609 |
| 7 | 2 | 5881-0867 | 797-7485 | 0-5227 | 38 | 6 | 211-9575 | 728-0990 | 0-4911 |
| 8 | 3 | 9482-6614 | 44-2007 | 999-8152 | 39 | 0 | 3812-6322 | 974-5512 | 999-7836 |
| 9 | 4 | 3083-3360 | 290-6528 | 999-1077 | 40 | 1 | 7413-3069 | 221-0034 | 999-0760 |
| *10 | 5 | 6684-0107 | 537-1050 | 998-4001 | *41 | 2 | 1013-9815 | 467-4555 | 998-3685 |
| 11 | 0 | 623-3174 | 819-8488 | 0-4303 | 42 | 4 | 4953-2882 | 750-1994 | 0-3987 |
| 12 | 1 | 4223-9921 | 66-3010 | 999-7228 | 43 | 5 | 8553-9629 | 996-6515 | 999-6912 |
| *13 | 2 | 7824-6667 | 312-7532 | 999-0153 | *44 | 6 | 2154-6376 | 243-1037 | 998-9836 |
| 14 | 4 | 1763-9734 | 595-4970 | 1-0455 | 45 | 1 | 6093-9442 | 525-8475 | 1-0128 |
| 15 | 5 | 5394-6481 | 841-9492 | 0-3379 | 46 | 2 | 9694-6189 | 772-2997 | 0-3063 |
| 16 | 6 | 8965-3227 | 88-4013 | 999-6304 | 47 | 3 | 3295-2936 | 18-7519 | 999-5988 |
| *17 | 0 | 2565-9974 | 334-8535 | 998-9229 | *48 | 4 | 6895-9682 | 265-2040 | 998-8912 |
| 18 | 2 | 6505-3041 | 617-3973 | 0-9531 | 49 | 6 | 835-2749 | 547-9479 | 0-9214 |
| 19 | 3 | 105-9788 | 864-0495 | 0-2455 | 50 | 0 | 4435-9496 | 794-4000 | 0-2139 |
| 20 | 4 | 3706-6534 | 110-5017 | 999-5380 | 51 | 1 | 8036-6243 | 40-8522 | 999-5064 |
| *21 | 5 | 7307-3281 | 356-9539 | 998-8305 | *52 | 2 | 1637-2989 | 287-3044 | 998-7988 |
| 22 | 0 | 1246-6348 | 639-6977 | 0-8607 | 53 | 4 | 5576-6056 | 570-0482 | 0-8290 |
| 23 | 1 | 4847-3094 | 886-1499 | 0-1531 | 54 | 5 | 9177-2803 | 816-3004 | 0-1215 |
| 24 | 2 | 8447-9841 | 132-6020 | 999-4454 | 55 | 6 | 2777-9549 | 62-9526 | 999-6140 |
| *25 | 3 | 2048-6588 | 379-0542 | 998-7381 | *56 | 0 | 6378-6206 | 309-4047 | 998-7064 |
| 26 | 5 | 5987-9655 | 661-7980 | 0-7683 | 57 | 2 | 317-9363 | 592-1485 | 0-7366 |
| 27 | 6 | 9588-6401 | 908-2502 | 0-0607 | 58 | 3 | 3918-6110 | 838-6007 | 0-0291 |
| 28 | 0 | 3189-3148 | 154-7024 | 999-3532 | 59 | 4 | 7519-2856 | 85-0529 | 999-3216 |
| *29 | 1 | 6789-9895 | 491-1545 | 998-6437 | *60 | 5 | 1119-9603 | 331-5061 | 998-6140 |
| 30 | 3 | 729-2961 | 683-8984 | 0-6759 | 61 | 0 | 5059-2670 | 614-2489 | 0-6442 |

TABLE LVII-C.

VALUES OF "a," "b," "c" ON DAYS FROM MINA 1 TO
MĒSHA 2, THE DAY OF MEAN MĒSHA-SAMKRĀNTI.

Corresponding to the first part of Prof. Jacobi's
Table XIII (*of Epig. Ind., Vol. XI, 170*) but
arranged for the *Siddhanta-Sirōmani*.

TABLE LVII B—*contd.*

| Year. | Week day. | a. | b. | c. | No. of days interval from Mēsha 0 | Month and day. | Week day. | a. | b. | c. |
|-------|--------------|-----------|----------|----------|---|-------------------|--------------|----|----|----|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 62 | 1 | 8659-9416 | 860-7011 | 999-9367 | | | | | | |
| 63 | 2 | 2260-6163 | 107-1532 | 999-2292 | | | | | | |
| *64 | 3 | 5861-2910 | 333-6054 | 998-5216 | | | | | | |
| 65 | 5 | 9800-5977 | 636-3492 | 0-5518 | | | | | | |
| 66 | 6 | 3401-2723 | 882-8014 | 999-8443 | | | | | | |
| 67 | 0 | 7001-9470 | 129-2536 | 999-1368 | | | | | | |
| *68 | 1 | 602-6217 | 375-7057 | 998-4292 | | | | | | |
| 69 | 3 | 4541-9283 | 658-4496 | 0-4594 | | | | | | |
| 70 | 4 | 8142-6030 | 904-9017 | 999-7519 | | | | | | |
| *71 | 5 | 1743-2777 | 151-3539 | 999-0444 | | | | | | |
| 72 | 0 | 5682-5844 | 434-0977 | 1-0746 | | | | | | |
| 73 | 1 | 9283-2590 | 680-5499 | 0-3670 | | | | | | |
| 74 | 2 | 2883-9337 | 927-0021 | 999-6595 | | | | | | |
| *75 | 3 | 6484-6084 | 173-4542 | 998-9520 | | | | | | |
| 76 | 5 | 423-9150 | 456-1981 | 0-9822 | | | | | | |
| 77 | 6 | 4054-5897 | 702-6502 | 0-2746 | | | | | | |
| 78 | 0 | 7625-2644 | 949-1024 | 999-5671 | | | | | | |
| *79 | 1 | 1225-9391 | 195-5546 | 998-8596 | | | | | | |
| 80 | 3 | 5165-2457 | 478-2984 | 0-8898 | | | | | | |
| 81 | 4 | 8765-9204 | 724-7506 | 0-1822 | | | | | | |
| 82 | 5 | 2365-5951 | 971-2027 | 999-4747 | | | | | | |
| *83 | 6 | 5967-2698 | 217-6549 | 998-7672 | | | | | | |
| 84 | 1 | 9906-3764 | 500-3987 | 0-7974 | | | | | | |
| 85 | 2 | 3507-2511 | 746-8509 | 0-0898 | | | | | | |
| 86 | 3 | 7107-9258 | 993-9031 | 999-3823 | | | | | | |
| *87 | 4 | 708-6904 | 239-7552 | 998-6748 | | | | | | |
| 88 | 6 | 4647-9071 | 522-4991 | 0-7050 | | | | | | |
| 89 | 0 | 8248-5818 | 768-9512 | 999-9974 | | | | | | |
| 90 | 1 | 1849-2565 | 15-4034 | 999-2899 | | | | | | |
| *91 | 2 | 5449-9311 | 261-8556 | 998-5824 | | | | | | |
| 92 | 4 | 9389-2378 | 544-5994 | 0-6126 | | | | | | |
| 93 | 5 | 2989-9125 | 791-0516 | 999-9050 | | | | | | |
| 94 | 6 | 6590-5871 | 37-5038 | 999-1975 | | | | | | |
| *95 | 0 | 191-2618 | 283-9559 | 998-4000 | | | | | | |
| 96 | 2 | 4130-5685 | 566-6997 | 0-5202 | | | | | | |
| 97 | 3 | 7731-2434 | 813-1519 | 999-8126 | | | | | | |
| 98 | 4 | 1331-9178 | 59-6041 | 999-1051 | | | | | | |
| *99 | 5 | 4932-5925 | 306-0563 | 998-3976 | | | | | | |
| 100 | 0 | 8871-8992 | 588-8001 | 0-4278 | | | | | | |

| No. of days interval from Mēsha 0 | Month and day. | Week day. | a. | b. | c. |
|---|-------------------|--------------|-----------|----------|----------|
| | | | | | |
| 29 | Mina 1 | 4 | 9502-4085 | 874-9589 | 915-1286 |
| 28 | " 2 | 5 | 9841-0404 | 911-2506 | 917-8664 |
| 27 | " 3 | 6 | 179-6724 | 947-5422 | 920-6042 |
| 26 | " 4 | 0 | 518-3044 | 983-8339 | 923-3419 |
| 25 | " 5 | 1 | 856-9364 | 20-1255 | 926-0797 |
| 24 | " 6 | 2 | 1195-5684 | 46-4172 | 928-8175 |
| 23 | " 7 | 3 | 1534-2904 | 92-7088 | 931-5553 |
| 22 | " 8 | 4 | 1872-8324 | 129-0005 | 934-2931 |
| 21 | " 9 | 5 | 2211-4643 | 165-2921 | 937-0309 |
| 20 | " 10 | 6 | 2550-0963 | 201-5838 | 939-7687 |
| 19 | " 11 | 0 | 2888-7283 | 237-8754 | 942-5065 |
| 18 | " 12 | 1 | 3227-3603 | 274-1671 | 945-2442 |
| 17 | " 13 | 2 | 3565-9923 | 310-4587 | 947-9820 |
| 16 | " 14 | 3 | 3904-6243 | 346-7504 | 950-7198 |
| 15 | " 15 | 4 | 4243-2563 | 383-0420 | 953-4576 |
| 14 | " 16 | 5 | 4581-8882 | 419-3336 | 956-1954 |
| 13 | " 17 | 6 | 4920-5202 | 455-6253 | 958-9332 |
| 12 | " 18 | 0 | 5259-1522 | 491-9169 | 961-6710 |
| 11 | " 19 | 1 | 5597-7842 | 528-2086 | 964-4088 |
| 10 | " 20 | 2 | 5936-4162 | 564-5002 | 967-1465 |
| 9 | " 21 | 3 | 6275-0482 | 600-7919 | 969-8843 |
| 8 | " 22 | 4 | 6613-6801 | 637-0835 | 972-6221 |
| 7 | " 23 | 5 | 6952-3121 | 673-3752 | 975-3599 |
| 6 | " 24 | 6 | 7290-9441 | 709-6668 | 978-0977 |
| 5 | " 25 | 0 | 7629-5761 | 745-9585 | 980-8355 |
| 4 | " 26 | 1 | 7968-2081 | 782-2501 | 983-5733 |
| 3 | " 27 | 2 | 8306-8401 | 818-5418 | 986-3111 |
| 2 | " 28 | 3 | 8645-4721 | 854-8334 | 989-0488 |
| 1 | " 29 | 4 | 8984-1040 | 891-1251 | 991-7866 |
| | Mēsha 0 | 5 | 9322-7360 | 927-4167 | 994-5244 |
| | " 1 | 6 | 9661-3680 | 963-7084 | 997-2622 |
| | " 2 | 0 | 0-0 | 0-0 | 0-0 |

By this Table, the a, b, c of the civil day coupled with
Chaitra Sukla, 1 is easily found

TABLE LVIII-A.

DURATION AND COLLECTIVE DURATION OF TRUE SOLAR MONTHS; WITH INCREASE OF a'' a'' b'' c'' d'' e'' f'' g'' h'' i'' j'' k'' l'' m'' n'' o'' p'' q'' r'' s'' t'' u'' v'' w'' x'' y'' z'' AT EACH SAMKR (NT).
 Calculated for the year K. Y. 4501, expired, A.D. 1359-1400.
 a'' in 10,000ths of circle; b'' and c'' in 1,000ths.

| Luni-solar month (ending after the second of the two solar sankrāntis con- nected with it). | | True solar sankrānti. | | Collective duration in days, hours, etc.; and collective increase of <i>a, b, c</i> from true Mēsa-sankrānti to each true sankrānti. | | | | | | | | | | True solar sankrānti. | | Length of month preceding each true sankrānti and increase of <i>a, b, c</i> between each such sankrānti. | | | | | | | | | | | |
|--|--|--------------------------|-----|--|----|----|-----------|----------|----------|----|----|--|--|--------------------------|----|---|----|----|----|----|-----|----|----|----|-----------|----------|---------|
| | | 2 | | Day | Wk | H. | M. | S. | a. | b. | c. | | | Day | Wk | H. | M. | S. | a. | b. | c. | | | | | | |
| 1 | | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | 10 | 11 | 12 | 13 | 14 | 15 | | | | |
| 1. Chaitra | { Mīna-sam. (of previous year) Mēsa-sam. . | 0 | ... | 0 | 0 | 00 | 0-0 | 0-0 | 0-0 | | | | | | | | | | | 0 | ... | 0 | 0 | 0 | 0-0 | 0-0 | |
| 2. Vaiśākha | { Vṛśabha-sam. Mithuna-sam. . | 30 | (2) | 21 | 30 | 45 | 467-1070 | 121-7837 | 81-0258 | | | | | | | | | | | 30 | (2) | 21 | 50 | 45 | 467-1070 | 121-7837 | 81-0258 |
| 3. Jyēṣṭha | { Karkā-sam. Sīmbha-sam. . | 62 | (6) | 7 | 25 | 16 | 1000-8924 | 201-3040 | 179-3896 | | | | | | | | | | | 31 | (3) | 9 | 34 | 31 | 632-6954 | 139-5293 | 85-0638 |
| 4. Āṣāḍha | { Karkā-sam. Sīmbha-sam. . | 93 | (2) | 22 | 18 | 58 | 1807-6473 | 408-8085 | 257-1601 | | | | | | | | | | | 31 | (3) | 14 | 53 | 42 | 707-7549 | 147-5645 | 86-5765 |
| 5. Śrāvaṇa | { Karkā-sam. Sīmbha-sam. . | 125 | (6) | 19 | 5 | 44 | 2471-4428 | 531-7219 | 343-3753 | | | | | | | | | | | 31 | (3) | 11 | 40 | 46 | 665-7055 | 142-8534 | 86-2152 |
| 6. Bhādrapada | { Karkā-sam. Sīmbha-sam. . | 156 | (2) | 11 | 32 | 47 | 3989-9451 | 678-9569 | 428-4122 | | | | | | | | | | | 31 | (3) | 1 | 27 | 3 | 518-0623 | 127-2350 | 85-0369 |
| 7. Āśvīna | { Tula-sam. Vṛśabha-sam. . | 180 | (4) | 22 | 59 | 48 | 5310-0242 | 785-0299 | 511-8519 | | | | | | | | | | | 30 | (2) | 11 | 27 | 1 | 339-5191 | 100-6040 | 83-4397 |
| 8. Kārtika | { Dhanu-sam. Makara-sam. . | 216 | (6) | 20 | 57 | 12 | 8440-1530 | 870-6805 | 593-7525 | | | | | | | | | | | 29 | (1) | 21 | 57 | 24 | 430-1268 | 85-6596 | 81-0906 |
| 9. Mārgaśīra | { Dhanu-sam. Makara-sam. . | 246 | (1) | 9 | 9 | 34 | 3432-7047 | 941-5357 | 674-5407 | | | | | | | | | | | 29 | (1) | 12 | 12 | 22 | 9902-5517 | 70-0152 | 80-7882 |
| 10. Pausa | { Kumbha-sam. Mīna-sam. . | 275 | (2) | 17 | 16 | 58 | 3367-0498 | 6-3372 | 754-8633 | | | | | | | | | | | 29 | (1) | 8 | 7 | 24 | 9034-9451 | 64-7415 | 80-3226 |
| 11. Māgha | { Mīna-sam. Mēsa-sam. (of following year) | 305 | (4) | 3 | 46 | 43 | 3336-0701 | 74-0063 | 835-4563 | | | | | | | | | | | 29 | (1) | 10 | 29 | 45 | 9968-4293 | 68-3291 | 80-5939 |
| 12. Phālguna | { Mīna-sam. Mēsa-sam. (of following year) | 324 | (5) | 22 | 36 | 7 | 3421-0886 | 155-5878 | 916-0994 | | | | | | | | | | | 29 | (1) | 18 | 49 | 24 | 85-9185 | 80-0215 | 81-5431 |
| 1. Chaitra (of following year) | { Mēsa-sam. (of following year) | 365 | (1) | 6 | 12 | 9 | 3688-1894 | 255-8394 | 1000-0 | | | | | | | | | | | 30 | (2) | 7 | 36 | 2 | 206-2608 | 100-2426 | 83-0006 |

TABLE LVIII-B.

VALUE OF "c" AND OF "EQUATION c" AT
THE SEVERAL TRUE SAMKRĀNTIS.

Correct for K. Y. 4500, A.D. 1399-1400.

"c" in 1,000ths of circle; "equation c" in
10,000ths.

| Samkranti. | c. | Equation C |
|---------------------|----------|------------|
| Mēsha-samk. . . | 274-4058 | 0-7327 |
| Vṛishabha-samk. . . | 359-0316 | 13-6505 |
| Mithuna-samk. . . | 444-9954 | 39-0684 |
| Karka-samk. . . | 531-5659 | 72-3342 |
| Siṁha-samk. . . | 617-7811 | 101-1528 |
| Kanyā-samk. . . | 703-8189 | 118-1876 |
| Tulā-samk. . . | 786-2577 | 119-2579 |
| Vṛiśchika-samk. . . | 868-1583 | 104-0306 |
| Dhanu-samk. . . | 948-9465 | 79-4803 |
| Makara-samk. . . | 29-2691 | 49-3732 |
| Kumbha-samk. . . | 109-8621 | 21-9669 |
| Mina-samk. . . | 191-4052 | 4-0606 |

TABLE LVIII-C.

EXACT VALUE OF "c" AND OF "EQUATION c" AT
THE MOMENT OF TRUE MĒSHA-SAMKRĀNTI AT
BEGINNING OF EACH CENTURY K. Y.

"c" in 1,000ths of circle; "equation c" in
10,000ths.

| K. Y. | A.D. | c. | Equation C. |
|-------|-----------|----------|-------------|
| 4200 | 1099-1100 | 274-0475 | 0-7312 |
| 4300 | 1199-1200 | 274-5669 | 0-7317 |
| 4400 | 1299-1300 | 274-4864 | 0-7332 |
| 4500 | 1399-1400 | 274-4058 | 0-7327 |
| 4600 | 1499-1500 | 274-3253 | 0-7322 |
| 4700 | 1599-1600 | 274-2447 | 0-7327 |
| 4800 | 1699-1700 | 274-1642 | 0-7342 |

TABLE LVIII-D.

CHANGES IN LENGTHS OF TRUE SOLAR MONTHS, AND IN VALUE OF *a*, *b*, *c* DUE TO THE FORWARD
SHIFT OF THE SUN'S APSIS POSTULATED BY THE *Siddhānta-Siromani*.

The entries shew differences from standard (Table LVIII-A, for K. Y. 4500, A.D. 1400) for a
year 300 years earlier or later; i.e., for K. Y. 4200 (A.D. 1100) or 4800 (A.D. 1700). Change
for intermediate years to be taken proportionately.

(For years earlier than A.D. 1400 use + or — signs as given. For later years reverse the signs.)

| At true solar samkranti. | Change in collective duration and in collec- tive increase of <i>a</i> , <i>b</i> , <i>c</i> from Mēsha sam- krānti to each samkranti. | | | | Change in length of each month between true solar samkrantis, and increase of <i>a</i> , <i>b</i> , <i>c</i> between each. | | | |
|------------------------------------|--|------------|------------|------------|--|------------|------------|------------|
| | M. S. | <i>a</i> . | <i>b</i> . | <i>c</i> . | M. S. | <i>a</i> . | <i>b</i> . | <i>c</i> . |
| 1 | 2 | 3 | | | 4 | 5 | | |
| Mēsha-sam. . | 0 0 | 0-0 | 0-0 | 0-0 | 0 0 | 0-0 | 0-0 | 0-0 |
| Vṛishabha-sam | +0 34 | +0-1333 | +0-0143 | +0-0611 | +0 34 | +0-1333 | +0-0143 | +0-0011 |
| Mithuna-sam. | +2 46 | +0-6506 | +0-0697 | +0-0053 | +2 12 | +0-5173 | +0-0554 | +0-0042 |
| Karka-sam. . | +2 27 | +0-5761 | +0-0617 | +0-0047 | +0 19 | +0-0745 | +0-0080 | +0-0006 |
| Siṁha-sam | +2 34 | +0-6035 | +0-0646 | +0-0049 | +0 7 | +0-0274 | +0-0029 | +0-0002 |
| Kanyā-sam. | +0 23 | +0-0901 | +0-0006 | +0-0008 | +2 11 | +0-5134 | +0-0550 | +0-0041 |
| Tulā-sam. . | +1 2 | +0-2431 | +0-0261 | +0-0019 | +1 25 | +0-3332 | +0-0357 | +0-0027 |
| Vṛiśchika-sam | +2 3 | +0-4822 | +0-0517 | +0-0038 | +1 1 | +0-2391 | +0-0256 | +0-0019 |
| Dhanu-sam. | +4 55 | +1-1563 | +0-1239 | +0-0092 | +2 52 | +0-6741 | +0-0722 | +0-0054 |
| Makara-sam. | +4 9 | +0-9760 | +0-1046 | +0-0077 | +0 46 | +0-1803 | +0-0193 | +0-0015 |
| Kumbha-sam. | +2 47 | +0-6546 | +0-0762 | +0-0051 | +1 23 | +0-3214 | +0-0344 | +0-0026 |
| Mina-sam. | +1 31 | +0-3567 | +0-0383 | +0-0027 | +1 16 | +0-2979 | +0-0319 | +0-0024 |
| Mēsha-sam. (of following year.) | +0 12 | +0-0470 | +0-0050 | +0-0004 | +1 19 | +0-3097 | +0-0332 | +0-0026 |

TABLE LIX.

THE MOON'S EQUATION OF THE CENTRE BY THE *Siddhanta-Siromayī*.

(For equation of the Sun's centre see Table XLVII, above, p. 23.)

| Serial No. of Sine. | MOON'S MEAN ANOM. | | | | SINE OF MEAN ANOM. ANGLE. | | EQUATION. | | | MOON'S MEAN ANOM. | | | | Serial No. of Sine. |
|---------------------------|-------------------|----|-----|----|------------------------------|-------|-------------------------|-------------------------------|---|-------------------|----|-----|----|---------------------------|
| | Moon's equation — | | | | Value in minutes. | Diff. | Equation in degrees. | Diff. per min. of anom. | Equation in 10,000ths of circle. | Moon's equation + | | | | |
| 1 | 2 | | | | 3 | 4 | 5 | 6 | 7 | 8 | | | | 1 |
| | 0 | 1 | 0 | 1 | | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | |
| 0 | 0 | 0 | 180 | 0 | 0 | 225 | 0 0 0 | 3-26 | 0-0 | 180 | 0 | 360 | 0 | 0 |
| 1 | 3 | 45 | 176 | 15 | 225 | 224 | 0 10 45-00 | 5-2433 | 9-1435 | 183 | 45 | 356 | 15 | 1 |
| 2 | 7 | 30 | 172 | 30 | 440 | 222 | 0 30 24-73 | 5-1907 | 18-2564 | 187 | 30 | 352 | 30 | 2 |
| 3 | 11 | 15 | 168 | 45 | 671 | 219 | 0 58 53-93 | 5-1262 | 27-2680 | 191 | 15 | 348 | 45 | 3 |
| 4 | 15 | 0 | 165 | 0 | 890 | 215 | 1 18 7-3 | 5-0626 | 36-1677 | 195 | 0 | 345 | 0 | 4 |
| 5 | 18 | 45 | 161 | 15 | 1103 | 210 | 1 36 39-6 | 4-915 | 44-9048 | 198 | 45 | 341 | 15 | 5 |
| 6 | 22 | 30 | 157 | 30 | 1315 | 205 | 1 53 25-6 | 4-7983 | 53-4388 | 202 | 30 | 337 | 30 | 6 |
| 7 | 26 | 15 | 153 | 45 | 1520 | 199 | 2 13 25-3 | 4-6581 | 61-7695 | 206 | 15 | 333 | 45 | 7 |
| 8 | 30 | 0 | 150 | 0 | 1719 | 191 | 2 30 53-40 | 4-4708 | 69-8568 | 210 | 0 | 330 | 0 | 8 |
| 9 | 33 | 45 | 146 | 15 | 1910 | 183 | 2 47 39-3 | 4-2835 | 77-6183 | 213 | 45 | 326 | 15 | 9 |
| 10 | 37 | 30 | 142 | 30 | 2093 | 174 | 3 3 43-12 | 4-0728 | 85-0550 | 217 | 30 | 322 | 30 | 10 |
| 11 | 41 | 15 | 138 | 45 | 2267 | 164 | 3 18 59-53 | 3-8383 | 92-1260 | 221 | 15 | 318 | 45 | 11 |
| 12 | 45 | 0 | 135 | 0 | 2431 | 154 | 3 33 23-56 | 3-6070 | 98-7914 | 225 | 0 | 315 | 0 | 12 |
| 13 | 48 | 45 | 131 | 15 | 2585 | 143 | 3 46 54-8438 | 3-3622 | 105-0528 | 228 | 45 | 311 | 15 | 13 |
| 14 | 52 | 30 | 127 | 30 | 2728 | 131 | 3 59 31-3393 | 3-0801 | 110-8900 | 232 | 30 | 307 | 30 | 14 |
| 15 | 56 | 15 | 123 | 45 | 2859 | 119 | 4 11 4-3661 | 2-7979 | 116-2374 | 236 | 15 | 303 | 45 | 15 |
| 16 | 60 | 0 | 120 | 0 | 2978 | 106 | 4 21 33-8839 | 2-4890 | 121-0948 | 240 | 0 | 300 | 0 | 16 |
| 17 | 63 | 45 | 116 | 15 | 3084 | 93 | 4 30 54-9107 | 2-1853 | 125-4237 | 243 | 45 | 296 | 15 | 17 |
| 18 | 67 | 30 | 112 | 30 | 3177 | 79 | 4 39 6-6027 | 1-8346 | 129-2176 | 247 | 30 | 292 | 30 | 18 |
| 19 | 71 | 15 | 108 | 45 | 3256 | 65 | 4 46 3-8839 | 1-5342 | 132-4374 | 251 | 15 | 288 | 45 | 19 |
| 20 | 75 | 0 | 105 | 0 | 3321 | 51 | 4 51 49-0848 | 1-1961 | 135-1910 | 255 | 0 | 285 | 0 | 20 |
| 21 | 78 | 45 | 101 | 15 | 3372 | 37 | 4 56 18-2143 | 0-8929 | 137-1776 | 258 | 45 | 281 | 15 | 21 |
| 22 | 82 | 30 | 97 | 30 | 3409 | 22 | 4 59 33-9509 | 0-5173 | 138-6870 | 262 | 30 | 277 | 30 | 22 |
| 23 | 86 | 15 | 93 | 45 | 3431 | 7 | 5 1 30-3348 | 0-1646 | 139-0859 | 266 | 15 | 273 | 45 | 23 |
| 24 | 90 | 0 | 90 | 0 | 3438 | | 5 2 7-3961 | | 139-8717 | 270 | 0 | 270 | 0 | 24 |

TABLE LX.

CONSTRUCTION OF TABLE.

The Table is constructed on the lines of Table I of the *Indian Calendar*, and columns are similarly numbered, so as to facilitate comparison of details by the *Ārya*- and *Sārya-Siddhantas* with those of the *Siddhanta-Siromani*, to which the present Table applies.

Cols. 1, 2.—In conformity with this the Kaliyuga and Śaka years stated are current years, not expired years. For years of other eras refer to Tables I and II, Part III, *Indian Calendar*.

Col. 5.—Years A.D. marked with an asterisk are leap-years.

Col. 7.—The *samvatsara*-name—i.e., the name of the Jovian cycle—of the year is given as determined by my previous calculations. See Table XLII above. Entries in italics shew cases where the *samvatsara*-name of the year differs from that fixed by *Sārya-Siddhanta* calculation.

Col. 8.—Months entered in roman characters are intercalated (*adhika*) lunar months. Those in italics are suppressed (*kshaya*) months.

Cols. 13, 19.—Figures in brackets give the serial number of the day measured from January 1.

Col. 23. “*a*” = distance mean moon from mean sun, stated in 10,000ths of circle.

Col. 24. “*b*” = mean anomaly of moon, or moon’s mean distance from perigee-point of apsis, stated in 1,000ths of circle.

Col. 25. “*c*” = sun’s mean anomaly, or sun’s mean distance from perigee-point of apsis, stated in 1,000ths of circle.

REMARKS.

A.D. 1128-29.—Close case. Possibly 9 Mārgaśīra, intercalated (*adhika*), 10 Pausa suppressed (*kshaya*), 12 Phālguna *adhika*.

“ 1183-84.—According to the 19-year sequence the *adhika* month should have been 3 Jyēshṭha.

“ 1242-43.—The *adhika* month should have been 6 Bhādrapada by sequence.

“ 1316-17.—Close case. By sequence 2 Vaiśākha expected as *adhika*.

“ 1410-11.—By sequence 7 Āśvina expected as *adhika*.

“ 1429-30.—By sequence 7 Āśvina expected as *adhika*.

“ 1679-80, 1698-99, 1717-18, 1736-37.—By the 19-year sequence in the two former years 4 Āshāḍha expected as *adhika*; or else in the two latter years 3 Jyēshṭha expected as *adhika*. But the result in each case by work from the Tables is as tabulated.

“ 1749.—Close case. See Text, example 6 at end.

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lek</i>) lunar months. |
|------------------|-------|---------------------|------------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitra-di Vikrama. | Māghādi (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4201 | 1022 | 1157 | 506 | 274.75 | 1099-1100 | 13 Pramāthā | 16 Chitrabhāna | 3 Jyēṣṭha |
| 4202 | 1023 | 1158 | 507 | 275.76 | *1100-01 | 14 Vikrama | 17 Sabbhāna | ... |
| 4203 | 1024 | 1159 | 508 | 276.77 | 1101-02 | 15 Vriha | 18 Tārāga | 7 Āsvina |
| 4204 | 1025 | 1160 | 509 | 277.78 | 1102-03 | 16 Chitrabhāna | 19 Pārthiva | ... |
| 4205 | 1026 | 1161 | 510 | 278.79 | 1103-04 | 17 Sabbhāna | 20 Vyaya | ... |
| 4206 | 1027 | 1162 | 511 | 279.80 | *1104-05 | 18 Thēga | 21 Sarvajit | 4 Āshāḍha |
| 4207 | 1028 | 1163 | 512 | 280.81 | 1105-06 | 19 Pārthiva | 22 Sarvadhāra | ... |
| 4208 | 1029 | 1164 | 513 | 281.82 | 1106-07 | 20 Vyaya | 23 Virādhā | ... |
| 4209 | 1030 | 1165 | 514 | 282.83 | 1107-08 | 21 Sarvajit | 24 Vikrāta | 3 Jyēṣṭha |
| 4210 | 1031 | 1166 | 515 | 283.84 | *1108-09 | 22 Sarvadhāra | 25 Khara | <div> 8 Kārtika 10 Pausa (<i>lek</i>) 12 Phālguna </div> |
| 4211 | 1032 | 1167 | 516 | 284.85 | 1109-10 | 23 Virādhā | 26 Nandana | |
| 4212 | 1033 | 1168 | 517 | 285.86 | 1110-11 | 24 Vikrāta | 27 Vijaya | |
| 4213 | 1034 | 1169 | 518 | 286.87 | 1111-12 | 25 Khara | 28 Jaya | ... |
| 4214 | 1035 | 1170 | 519 | 287.88 | *1112-13 | 26 Nandana | 29 Manmatha | 5 Śrāvana |
| 4215 | 1036 | 1171 | 520 | 288.89 | 1113-14 | 27 Vijaya | 30 Durmukha | ... |
| 4216 | 1037 | 1172 | 521 | 289.90 | 1114-15 | 28 Jaya | 31 Hāmalamba | ... |
| 4217 | 1038 | 1173 | 522 | 290.91 | 1115-16 | 29 Manmatha | 32 Vilamba | 4 Āshāḍha |
| 4218 | 1039 | 1174 | 523 | 291.92 | *1116-17 | 30 Durmukha | 33 Vikāra | ... |
| 4219 | 1040 | 1175 | 524 | 292.93 | 1117-18 | 31 Hāmalamba | 34 Śārvara | ... |
| 4220 | 1041 | 1176 | 525 | 293.94 | 1118-19 | 32 Vilamba | 35 Plava | 2 Vāṣṭhika |
| 4221 | 1042 | 1177 | 526 | 294.95 | 1119-20 | 33 Vikāra | 36 Subhakra | ... |
| 4222 | 1043 | 1178 | 527 | 295.96 | *1120-21 | 34 Śārvara | 37 Sabbhāna | 6 Bhādrapada |
| 4223 | 1044 | 1179 | 528 | 296.97 | 1121-22 | 35 Plava | 38 Krādhā | ... |
| 4224 | 1045 | 1180 | 529 | 297.98 | 1122-23 | 36 Subhakra | 39 Vāṣṭhika | ... |
| 4225 | 1046 | 1181 | 530 | 298.99 | 1123-24 | 37 Sabbhāna | 40 Parādhāra | 4 Āshāḍha |

LX.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 23 Mar. (82) | 4 Wed. | 6 11 11 | 24 Feb. (55) | 5 Thur. | 228-7161 | 574-4426 | 200-0218 | 4201 |
| 22 Mar. (82) | 5 Thur. | 12 23 20 | 13 Mar. (73) | 3 Tues. | 9924-7666 | 474-1445 | 248-5944 | 4202 |
| 22 Mar. (81) | 6 Fri. | 18 35 29 | 2 Mar. (61) | 0 Sat. | 9800-4894 | 321-3885 | 217-7712 | 4203 |
| 23 Mar. (82) | 1 Sun. | 0 47 38 | 21 Mar. (80) | 6 Fri. | 9835-1718 | 256-3820 | 269-0815 | 4204 |
| 23 Mar. (82) | 2 Mon. | 6 59 46 | 11 Mar. (70) | 4 Wed. | 49-5266 | 140-9176 | 240-9962 | 4205 |
| 22 Mar. (82) | 3 Tues. | 13 11 55 | 28 Feb. (59) | 1 Sun. | 9925-2495 | 988-1617 | 210-1700 | 4206 |
| 22 Mar. (81) | 4 Wed. | 19 24 4 | 18 Mar. (77) | 0 Sat. | 9959-9318 | 924-1552 | 261-4834 | 4207 |
| 23 Mar. (82) | 6 Fri. | 1 36 13 | 8 Mar. (67) | 5 Thur. | 174-2867 | 807-6909 | 233-3979 | 4208 |
| 23 Mar. (82) | 0 Sat. | 7 48 22 | 25 Feb. (56) | 2 Mon. | 50-0095 | 654-9350 | 202-5747 | 4209 |
| 22 Mar. (82) | 1 Sun. | 14 0 31 | 15 Mar. (75) | 1 Sun. | 84-6918 | 596-9284 | 253-8852 | 4210 |
| 22 Mar. (81) | 2 Mon. | 20 12 39 | 4 Mar. (63) | 5 Thur. | 9960-4147 | 438-1725 | 223-0619 | 4211 |
| 23 Mar. (82) | 4 Wed. | 2 24 48 | 23 Mar. (82) | 4 Wed. | 9995-0971 | 374-1659 | 274-3723 | 4212 |
| 23 Mar. (82) | 5 Thur. | 8 36 57 | 12 Mar. (71) | 1 Sun. | 9870-8200 | 221-4100 | 243-5492 | 4213 |
| 22 Mar. (82) | 6 Fri. | 14 49 6 | 1 Mar. (61) | 6 Fri. | 85-1747 | 104-9457 | 215-4638 | 4214 |
| 22 Mar. (81) | 0 Sat. | 21 1 15 | 20 Mar. (79) | 5 Thur. | 119-8572 | 40-9392 | 266-7742 | 4215 |
| 23 Mar. (82) | 2 Mon. | 3 13 24 | 9 Mar. (68) | 2 Mon. | 9995-5800 | 888-1832 | 235-9509 | 4216 |
| 23 Mar. (82) | 3 Tues. | 9 25 32 | 27 Feb. (58) | 0 Sat. | 209-9348 | 771-7279 | 207-8655 | 4217 |
| 22 Mar. (82) | 4 Wed. | 15 37 41 | 17 Mar. (77) | 6 Fri. | 244-6172 | 707-7124 | 259-1760 | 4218 |
| 22 Mar. (81) | 5 Thur. | 21 49 50 | 6 Mar. (65) | 3 Tues. | 120-3401 | 554-9564 | 228-3527 | 4219 |
| 23 Mar. (82) | 0 Sat. | 4 1 59 | 23 Feb. (54) | 0 Sat. | 9996-0629 | 402-2005 | 197-6295 | 4220 |
| 23 Mar. (82) | 1 Sun. | 10 14 8 | 14 Mar. (73) | 6 Fri. | 30-7453 | 338-1940 | 248-8399 | 4221 |
| 22 Mar. (82) | 2 Mon. | 16 26 17 | 2 Mar. (62) | 3 Tues. | 9606-4681 | 185-4382 | 218-0168 | 4222 |
| 22 Mar. (81) | 3 Tues. | 22 38 25 | 21 Mar. (80) | 2 Mon. | 9941-1506 | 121-4315 | 269-3271 | 4223 |
| 23 Mar. (82) | 5 Thur. | 4 5 34 | 11 Mar. (70) | 0 Sat. | 155-5053 | 4-9672 | 241-2417 | 4224 |
| 23 Mar. (82) | 6 Fri. | 11 2 43 | 28 Feb. (59) | 4 Wed. | 31-2282 | 851-0634 | 209-7110 | 4225 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>leap</i> .) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Rali. | Saka. | Chaitradī Vikrama. | Mēshādī (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4226 | 1047 | 1182 | 531 | 299.00 | *1124-25 | 38 Krōdha | 41 Phavaṅga | ... |
| 4227 | 1048 | 1183 | 532 | 300.01 | 1125-26 | 39 Viśvānu | 42 Kilaka | ... |
| 4228 | 1049 | 1184 | 533 | 301.02 | 1126-27 | 40 Parābhava | 43 Saumya | 3 Jyēṣṭha |
| 4229 | 1050 | 1185 | 534 | 302.03 | 1127-28 | 41 Phavaṅga | 44 Sādhārana | ... |
| 4230 | 1051 | 1186 | 535 | 303.04 | *1128-29 | 42 Kilaka | 45 Virōdhakṛt | 12 Phālguna† |
| 4231 | 1052 | 1187 | 536 | 304.05 | 1129-30 | 43 Saumya | 46 Paridhāvin | ... |
| 4232 | 1053 | 1188 | 537 | 305.06 | 1130-31 | 44 Sādhārana | 47 Pramādin | ... |
| 4233 | 1054 | 1189 | 538 | 306.07 | 1131-32 | 45 Virōdhakṛt | 48 Ananda | 5 Śrāvṣa |
| 4234 | 1055 | 1190 | 539 | 307.08 | *1132-33 | 46 Paridhāvin | 49 Rākṣasa | ... |
| 4235 | 1056 | 1191 | 540 | 308.09 | 1133-34 | 47 Pramādin | 50 Anala | ... |
| 4236 | 1057 | 1192 | 541 | 309.10 | 1134-35 | 48 Ananda | 51 Piṅgala | 4 Āshāḍha |
| 4237 | 1058 | 1193 | 542 | 310.11 | 1135-36 | 49 Rākṣasa | 52 Kālayukta | ... |
| 4238 | 1059 | 1194 | 543 | 311.12 | *1136-37 | 50 Anala | 53 Siddhārthī | ... |
| 4239 | 1060 | 1195 | 544 | 312.13 | 1137-38 | 51 Piṅgala | 54 Raudra | 2 Vaiśākha |
| 4240 | 1061 | 1196 | 545 | 313.14 | 1138-39 | 52 Kālayukta | 55 Durdhātī | ... |
| 4241 | 1062 | 1197 | 546 | 314.15 | 1139-40 | 53 Siddhārthī | 56 Dandubhi | 6 Bhādrapada |
| 4242 | 1063 | 1198 | 547 | 315.16 | *1140-41 | 54 Raudra | 57 Rudhīrōdgārī | ... |
| 4243 | 1064 | 1199 | 548 | 316.17 | 1141-42 | 55 Durdhātī | 58 Raktāksha | ... |
| 4244 | 1065 | 1200 | 549 | 317.18 | 1142-43 | 56 Dandubhi | 59 Krōdhana | 4 Āshāḍha |
| 4245 | 1066 | 1201 | 550 | 318.19 | 1143-44 | 57 Rudhīrōdgārī | 60 Kṣaya | ... |
| 4246 | 1067 | 1202 | 551 | 319.20 | *1144-45 | 58 Raktāksha | 1 Prabhava | ... |
| 4247 | 1068 | 1203 | 552 | 320.21 | 1145-46 | 59 Krōdhana | 2 Vihava | 3 Jyēṣṭha |
| 4248 | 1069 | 1204 | 553 | 321.22 | 1146.47 | 60 Kṣaya | 3 Śukla | ... |
| 4249 | 1070 | 1205 | 554 | 322.23 | 1147.48 | 1 Prabhava | 4 Pramōda | { 8 Kārtika 10 Pausa (<i>leap</i> .) 12 Phālguna } |
| 4250 | 1071 | 1206 | 555 | 323.24 | *1148-49 | 2 Vihava | 5 Prajāpati | |

* See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 22 Mar. (82) | 0 Sat. . | 17 14 52 | 18 Mar. (78) | 3 Tues. | 65-9106 | 788-2047 | 261-7290 | 4226 |
| 22 Mar. (81) | 1 Sun. . | 23 27 1 | 8 Mar. (67) | 1 Sun. . | 280-2633 | 671-7404 | 233-6435 | 4227 |
| 23 Mar. (82) | 3 Tues. | 5 39 10 | 25 Feb. (56) | 5 Thur. | 155-9882 | 518-9845 | 202-8202 | 4228 |
| 23 Mar. (82) | 4 Wed. | 11 31 19 | 15 Mar. (74) | 3 Tues. | 9852-0386 | 418-6163 | 251-3929 | 4229 |
| 22 Mar. (82) | 5 Thur. | 18 3 27 | 3 Mar. (63) | 0 Sat. . | 9727-7615 | 265-9303 | 220-5698 | 4230 |
| 23 Mar. (82) | 0 Sat. . | 0 15 36 | 22 Mar. (81) | 6 Fri. | 9762-4438 | 201-0239 | 271-8801 | 4231 |
| 23 Mar. (82) | 1 Sun. . | 6 27 45 | 12 Mar. (71) | 4 Wed. | 9976-7987 | 85-4595 | 243-7947 | 4232 |
| 23 Mar. (82) | 2 Mon. . | 12 39 54 | 2 Mar. (61) | 2 Mon. . | 191-1345 | 968-9952 | 215-7093 | 4233 |
| 22 Mar. (82) | 3 Tues. | 18 52 3 | 20 Mar. (80) | 1 Sun. . | 225-8360 | 904-9887 | 267-0197 | 4234 |
| 23 Mar. (82) | 5 Thur. | 1 4 12 | 9 Mar. (68) | 5 Thur. | 101-5587 | 751-2327 | 236-1965 | 4235 |
| 23 Mar. (82) | 6 Fri. | 7 16 20 | 26 Feb. (57) | 2 Mon. . | 9977-2816 | 599-4768 | 205-3732 | 4236 |
| 23 Mar. (82) | 0 Sat. . | 13 28 29 | 17 Mar. (76) | 1 Sun. . | 11-9640 | 535-4702 | 256-6837 | 4237 |
| 22 Mar. (82) | 1 Sun. . | 19 40 38 | 5 Mar. (65) | 5 Thur. | 9887-6769 | 382-7143 | 225-8005 | 4238 |
| 23 Mar. (82) | 3 Tues. | 1 52 47 | 22 Feb. (53) | 2 Mon. . | 9763-4697 | 229-9583 | 195-0373 | 4239 |
| 23 Mar. (82) | 4 Wed. | 8 4 56 | 13 Mar. (72) | 1 Sun. . | 9798-0921 | 165-9518 | 246-3477 | 4240 |
| 23 Mar. (82) | 5 Thur. | 14 17 5 | 3 Mar. (62) | 6 Fri. . | 12-4469 | 49-4876 | 218-2623 | 4241 |
| 22 Mar. (82) | 6 Fri. . | 20 29 13 | 21 Mar. (81) | 5 Thur. | 47-1292 | 985-4816 | 269-3727 | 4242 |
| 23 Mar. (82) | 1 Sun. . | 2 41 22 | 11 Mar. (70) | 3 Tues. | 261-4841 | 869-0167 | 241-4873 | 4243 |
| 23 Mar. (82) | 2 Mon. . | 8 53 31 | 28 Feb. (59) | 0 Sat. . | 137-2670 | 716-2597 | 210-6641 | 4244 |
| 23 Mar. (82) | 3 Tues. | 15 5 40 | 19 Mar. (78) | 6 Fri. . | 171-8894 | 652-1542 | 261-9745 | 4245 |
| 22 Mar. (82) | 4 Wed. | 21 17 49 | 7 Mar. (67) | 3 Tues. | 47-6122 | 499-4983 | 231-1512 | 4246 |
| 23 Mar. (82) | 6 Fri. . | 3 29 58 | 24 Feb. (55) | 0 Sat. . | 9923-3350 | 346-7423 | 200-3281 | 4247 |
| 23 Mar. (82) | 0 Sat. . | 9 42 7 | 15 Mar. (74) | 6 Fri. . | 9958-0174 | 282-7358 | 251-6383 | 4248 |
| 23 Mar. (82) | 1 Sun. . | 15 54 15 | 4 Mar. (63) | 3 Tues. | 9833-7402 | 129-9798 | 220-8153 | 4249 |
| 22 Mar. (82) | 2 Mon. . | 22 6 24 | 22 Mar. (82) | 2 Mon. . | 9868-4226 | 65-9734 | 272-1256 | 4250 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>leap</i> .) lunar months. |
|------------------|-------|---------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrañdi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4251 | 1072 | 1207 | 556 | 324-25 | 1149-50 | 3 Sukla . . | 6 Aṅgiras . . | ... |
| 4252 | 1073 | 1208 | 557 | 325-26 | 1150-51 | 4 Pramōda . . | 7 Śrīmukha . . | 5 Śrāvaga . . |
| 4253 | 1074 | 1209 | 558 | 326-27 | 1151-52 | 5 Prajāpati . . | 8 Bhāva . . | ... |
| 4254 | 1075 | 1210 | 559 | 327-28 | *1152-53 | 6 Aṅgiras . . | 9 Yuvan . . | ... |
| 4255 | 1076 | 1211 | 560 | 328-29 | 1153-54 | 7 Śrīmukha . . | 10 Dhātṛi . . | 4 Āshāḍha . . |
| 4256 | 1077 | 1212 | 561 | 329-30 | 1154-55 | 8 Bhāva . . | 11 Īśvara . . | ... |
| 4257 | 1078 | 1213 | 562 | 330-31 | 1155-56 | 9 Yuvan . . | 12 Bahudhānya . . | ... |
| 4258 | 1079 | 1214 | 563 | 331-32 | *1156-57 | 10 Dhātṛi . . | 13 Pramāthin . . | 2 Vaiśākha . . |
| 4259 | 1080 | 1215 | 564 | 332-33 | 1157-58 | 11 Īśvara . . | 14 Vikrama . . | ... |
| 4260 | 1081 | 1216 | 565 | 333-34 | 1158-59 | 12 Bahudhānya . . | 15 Vṛisha . . | 6 Bhādrapada . . |
| 4261 | 1082 | 1217 | 566 | 334-35 | 1159-60 | 13 Pramāthin . . | 16 Chitrabhānu . . | ... |
| 4262 | 1083 | 1218 | 567 | 335-36 | *1160-61 | 14 Vikrama . . | 18 Tāraka† . . | ... |
| 4263 | 1084 | 1219 | 568 | 336-37 | 1161-62 | 15 Vṛisha . . | 19 Pārthiva . . | 4 Āshāḍha . . |
| 4264 | 1085 | 1220 | 569 | 337-38 | 1162-63 | 16 Chitrabhānu . . | 20 Vyaya . . | ... |
| 4265 | 1086 | 1221 | 570 | 338-39 | 1163-64 | 17 Subhānu . . | 21 Sarvajit . . | ... |
| 4266 | 1087 | 1222 | 571 | 339-40 | *1164-65 | 18 Tāraka . . | 22 Sarvadhārin . . | 3 Jyēṣṭha . . |
| 4267 | 1088 | 1223 | 572 | 340-41 | 1165-66 | 19 Pārthiva . . | 23 Virōdhin . . | ... |
| 4268 | 1089 | 1224 | 573 | 341-42 | 1166-67 | 20 Vyaya . . | 24 Vikṛita . . | { 7 Āsvina 10 Pūṣha (<i>leap</i> .) 12 Phālguna } |
| 4269 | 1090 | 1225 | 574 | 342-43 | 1167-68 | 21 Sarvajit . . | 25 Khara . . | |
| 4270 | 1091 | 1226 | 575 | 343-44 | *1168-69 | 22 Sarvadhārin . . | 26 Nandana . . | |
| 4271 | 1092 | 1227 | 576 | 344-45 | 1169-70 | 23 Virōdhin . . | 27 Vijaya . . | 5 Śrāvaga . . |
| 4272 | 1093 | 1228 | 577 | 345-46 | 1170-71 | 24 Vikṛita . . | 28 Jaya . . | ... |
| 4273 | 1094 | 1229 | 578 | 346-47 | 1171-72 | 25 Khara . . | 29 Manmatha . . | ... |
| 4274 | 1095 | 1230 | 579 | 347-48 | *1172-73 | 26 Nandana . . | 30 Durmukha . . | 4 Āshāḍha . . |
| 4275 | 1096 | 1231 | 580 | 348-49 | 1173-74 | 27 Vijaya . . | 31 Hēmalamba . . | ... |

† 17 Subhānu was suppressed in the month

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 23 Mar. (82) | 4 Wed. | 4 18 33 | 12 Mar. (71) | 0 Sat. | 82-7775 | 949-5090 | 244-0403 | 4251 |
| 23 Mar. (82) | 5 Thur. | 10 30 42 | 2 Mar. (61) | 5 Thur. | 297-1322 | 833-0447 | 215-9549 | 4252 |
| 23 Mar. (82) | 6 Fri. | 16 42 51 | 21 Mar. (80) | 4 Wed. | 331-6147 | 769-0742 | 267-2662 | 4253 |
| 22 Mar. (82) | 0 Sat. | 22 55 0 | 9 Mar. (69) | 1 Sun. | 207-5375 | 616-2822 | 236-4420 | 4254 |
| 23 Mar. (82) | 2 Mon. | 5 7 8 | 26 Feb. (57) | 5 Thur. | 83-2604 | 463-5263 | 205-6188 | 4255 |
| 23 Mar. (82) | 3 Tues. | 11 19 17 | 16 Mar. (75) | 3 Tues. | 9779-3107 | 363-2282 | 254-1915 | 4256 |
| 23 Mar. (82) | 4 Wed. | 17 31 26 | 6 Mar. (65) | 1 Sun. | 99 3-6656 | 246-7638 | 226-1060 | 4257 |
| 22 Mar. (82) | 5 Thur. | 23 43 35 | 24 Feb. (54) | 5 Thur. | 9869-3885 | 94-0078 | 195-2928 | 4258 |
| 23 Mar. (82) | 0 Sat. | 5 55 44 | 13 Mar. (72) | 4 Wed. | 9904-0709 | 30-0013 | 246-5932 | 4259 |
| 23 Mar. (82) | 1 Sun. | 12 7 53 | 3 Mar. (62) | 2 Mon. | 118-4256 | 913-5371 | 218-5079 | 4260 |
| 23 Mar. (82) | 2 Mon. | 18 20 1 | 22 Mar. (81) | 1 Sun. | 153-1080 | 849-5306 | 260-7796 | 4261 |
| 23 Mar. (83) | 4 Wed. | 0 32 10 | 10 Mar. (70) | 5 Thur. | 28-8309 | 696-7746 | 238-9950 | 4262 |
| 23 Mar. (82) | 5 Thur. | 6 44 19 | 27 Feb. (58) | 2 Mon. | 9904-5537 | 544-0187 | 208-1718 | 4263 |
| 23 Mar. (82) | 6 Fri. | 12 56 28 | 18 Mar. (77) | 1 Sun. | 9939-2361 | 480-0121 | 259-4823 | 4264 |
| 23 Mar. (82) | 0 Sat. | 19 8 37 | 7 Mar. (66) | 5 Thur. | 9814-9590 | 327-2562 | 228-6590 | 4265 |
| 23 Mar. (83) | 2 Mon. | 1 20 46 | 25 Feb. (56) | 3 Tues. | 29-3138 | 210-7918 | 200-5736 | 4266 |
| 23 Mar. (82) | 3 Tues. | 7 32 54 | 15 Mar. (74) | 2 Mon. | 63-9961 | 146-7853 | 251-8740 | 4267 |
| 23 Mar. (82) | 4 Wed. | 13 45 3 | 4 Mar. (63) | 6 Fri. | 9939-7190 | 994-0294 | 221-0609 | 4268 |
| 23 Mar. (82) | 5 Thur. | 19 57 12 | 23 Mar. (82) | 5 Thur. | 9974-4014 | 930-0228 | 272-3713 | 4269 |
| 23 Mar. (83) | 0 Sat. | 2 9 21 | 12 Mar. (72) | 3 Tues. | 188-7562 | 813-5586 | 244-2858 | 4270 |
| 23 Mar. (82) | 1 Sun. | 8 21 30 | 1 Mar. (60) | 0 Sat. | 64-4791 | 660-8026 | 213-4626 | 4271 |
| 23 Mar. (82) | 2 Mon. | 14 33 39 | 20 Mar. (79) | 6 Fri. | 99 1615 | 596-7961 | 264-7731 | 4272 |
| 23 Mar. (82) | 3 Tues. | 20 45 47 | 9 Mar. (68) | 3 Tues. | 9974-8844 | 444-0401 | 233-9498 | 4273 |
| 23 Mar. (83) | 5 Thur. | 2 57 56 | 26 Feb. (57) | 0 Sat. | 9850-6071 | 291-2842 | 203-1265 | 4274 |
| 23 Mar. (82) | 6 Fri. | 9 10 5 | 16 Mar. (75) | 6 Fri. | 9885-2895 | 227-2777 | 254-4370 | 4275 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lsh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikramā. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4276 | 1097 | 1232 | 581 | 349-50 | 1174-75 | 28 Jaya . | 32 Vilamba . | ... |
| 4277 | 1098 | 1233 | 582 | 350-51 | 1175-76 | 29 Manmatha . | 33 Vikārin . | 2 Vaiśākha . |
| 4278 | 1099 | 1234 | 583 | 351-52 | *1176-77 | 30 Durmukha . | 34 Sārvarin . | ... |
| 4279 | 1100 | 1235 | 584 | 352-53 | 1177-78 | 31 Hāmālamba . | 35 Plava . | 6 Bhādrapada . |
| 4280 | 1101 | 1236 | 585 | 353-54 | 1178-79 | 32 Vilamba . | 36 Subhakrit . | ... |
| 4281 | 1102 | 1237 | 586 | 354-55 | 1179-80 | 33 Vikārin . | 37 Śobhana . | ... |
| 4282 | 1103 | 1238 | 587 | 355-56 | *1180-81 | 34 Sārvarin . | 38 Krōdhin . | 4 Āshāḍha † . |
| 4283 | 1104 | 1239 | 588 | 356-57 | 1181-82 | 35 Plava . | 39 Viśvāvasu † . | ... |
| 4284 | 1105 | 1240 | 589 | 357-58 | 1182-83 | 36 Subhakrit . | 40 Parābhava . | ... |
| 4285 | 1106 | 1241 | 590 | 358-59 | 1183-84 | 37 Śobhana . | 41 Plavaṅga . | 2 Vaiśākha † . |
| 4286 | 1107 | 1242 | 591 | 359-60 | *1184-85 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4287 | 1108 | 1243 | 592 | 360-61 | 1185-86 | 39 Viśvāvasu . | 43 Saumya . | 6 Bhādrapada . |
| 4288 | 1109 | 1244 | 593 | 361-62 | 1186-87 | 40 Parābhava . | 44 Sādhārāga . | ... |
| 4289 | 1110 | 1245 | 594 | 362-63 | 1187-88 | 41 Plavaṅga . | 45 Virōdhakrit . | ... |
| 4290 | 1111 | 1246 | 595 | 363-64 | *1188-89 | 42 Kilaka . | 46 Paridhāvin . | 5 Śrāvaṇa † . |
| 4291 | 1112 | 1247 | 596 | 364-65 | 1189-90 | 43 Saumya . | 47 Pramādin . | ... |
| 4292 | 1113 | 1248 | 597 | 365-66 | 1190-91 | 44 Sādhārāga . | 48 Ānanda . | ... |
| 4293 | 1114 | 1249 | 598 | 366-67 | 1191-92 | 45 Virōdhakrit . | 49 Rākshasa . | 3 Jyēṣṭha . |
| 4294 | 1115 | 1250 | 599 | 367-68 | *1192-93 | 46 Paridhāvin . | 50 Anala . | ... |
| 4295 | 1116 | 1251 | 600 | 368-69 | 1193-94 | 47 Pramādin . | 51 Piṅgala . | ... |
| 4296 | 1117 | 1252 | 601 | 369-70 | 1194-95 | 48 Ānanda . | 52 Kālayukta . | 2 Vaiśākha . |
| 4297 | 1118 | 1253 | 602 | 370-71 | 1195-96 | 49 Rākshasa . | 53 Siddhārthin . | ... |
| 4298 | 1119 | 1254 | 603 | 371-72 | *1196-97 | 50 Anala . | 54 Raudra . | 6 Bhādrapada . |
| 4299 | 1120 | 1255 | 604 | 372-73 | 1197-98 | 51 Piṅgala . | 55 Durmati . | ... |
| 4300 | 1121 | 1256 | 605 | 373-74 | 1198-99 | 52 Kālayukta . | 56 Dundubhi . | ... |

† See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēṣha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13. | 14. | 17. | 19. | 20. | 23. | 24. | 25. | 1. |
| 23 Mar. (82) | 0 Sat. | H. M. S. 15 22 14 | 6 Mar. (66) | 4 Wed. | 99-6444 | 110-8133 | 226-3516 | 4276 |
| 23 Mar. (82) | 1 Sun. | 21 34 23 | 23 Feb. (54) | 1 Sun. | 9975-3672 | 958-0573 | 195-5284 | 4277 |
| 23 Mar. (83) | 3 Tues. | 3 46 32 | 13 Mar. (73) | 6 Sat. | 10-0496 | 694-0508 | 246-8387 | 4278 |
| 23 Mar. (82) | 4 Wed. | 9 58 41 | 3 Mar. (62) | 5 Thur. | 224-4044 | 777-5866 | 218-7534 | 4279 |
| 23 Mar. (82) | 5 Thur. | 16 10 49 | 22 Mar. (81) | 4 Wed. | 259-0808 | 713-5801 | 270-0638 | 4280 |
| 23 Mar. (82) | 6 Fri. | 22 22 58 | 11 Mar. (70) | 1 Sun. | 134-8090 | 560-8241 | 239-2400 | 4281 |
| 23 Mar. (83) | 1 Sun. | 4 35 7 | 28 Feb. (59) | 5 Thur. | 10-5325 | 408-0682 | 208-4173 | 4282 |
| 23 Mar. (82) | 2 Mon. | 10 47 16 | 18 Mar. (77) | 4 Wed. | 45-2149 | 344-0616 | 259-7278 | 4283 |
| 23 Mar. (82) | 3 Tues. | 16 59 25 | 7 Mar. (66) | 1 Sun. | 9920-9377 | 191-3017 | 228-9046 | 4284 |
| 23 Mar. (82) | 4 Wed. | 23 11 34 | 24 Feb. (55) | 5 Thur. | 9796-6605 | 38-5497 | 198-0814 | 4285 |
| 23 Mar. (83) | 6 Fri. | 5 23 42 | 15 Mar. (75) | 5 Thur. | 169-9748 | 10-8348 | 252-1295 | 4286 |
| 23 Mar. (82) | 0 Sat. | 11 35 51 | 4 Mar. (63) | 2 Mon. | 45-6978 | 858-0789 | 221-3064 | 4287 |
| 23 Mar. (82) | 1 Sun. | 17 48 0 | 23 Mar. (82) | 1 Sun. | 80-3801 | 794-0717 | 272-6168 | 4288 |
| 24 Mar. (83) | 3 Tues. | 0 0 0 | 13 Mar. (72) | 6 Fri. | 294-7330 | 677-6180 | 244-5314 | 4289 |
| 23 Mar. (83) | 4 Wed. | 6 12 8 | 1 Mar. (61) | 3 Tues. | 170-4579 | 524-8521 | 213-7081 | 4290 |
| 23 Mar. (82) | 5 Thur. | 12 24 27 | 19 Mar. (78) | 1 Sun. | 9866-5083 | 424-5529 | 252-2808 | 4291 |
| 23 Mar. (82) | 6 Fri. | 18 36 35 | 8 Mar. (67) | 5 Thur. | 9742-2311 | 271-7980 | 231-4576 | 4292 |
| 24 Mar. (83) | 1 Sun. | 0 48 44 | 26 Feb. (57) | 3 Tues. | 9956-5859 | 155-3337 | 209-3721 | 4293 |
| 23 Mar. (83) | 2 Mon. | 7 0 53 | 16 Mar. (76) | 2 Mon. | 9991-2683 | 91-3272 | 254-6825 | 4294 |
| 23 Mar. (82) | 3 Tues. | 13 13 2 | 6 Mar. (66) | 0 Sat. | 205-6231 | 974-8629 | 226-6971 | 4295 |
| 23 Mar. (82) | 4 Wed. | 19 25 11 | 23 Feb. (54) | 4 Wed. | 81-3459 | 822-1069 | 195-7740 | 4296 |
| 24 Mar. (83) | 6 Fri. | 1 37 20 | 14 Mar. (73) | 3 Tues. | 116-0284 | 758-1003 | 247-0843 | 4297 |
| 23 Mar. (83) | 0 Sat. | 7 49 28 | 2 Mar. (62) | 0 Sat. | 9991-7511 | 605-2444 | 216-2611 | 4298 |
| 23 Mar. (82) | 1 Sun. | 14 1 37 | 21 Mar. (80) | 6 Fri. | 26-4336 | 541-3379 | 207-5715 | 4299 |
| 23 Mar. (82) | 2 Mon. | 20 13 46 | 10 Mar. (69) | 3 Tues. | 9902-1564 | 388-5820 | 236-7494 | 4300 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|--------------------|--------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kellam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4301 | 1122 | 1257 | 606 | 374-75 | 1199-00 | 53 Siddhārthin . | 57 Rudhirōdgārin . | 4 Āshāḍha . |
| 4302 | 1123 | 1258 | 607 | 375-76 | *1200-01 | 54 Raudra . | 58 Raktāksha . | ... |
| 4303 | 1124 | 1259 | 608 | 376-77 | 1201-02 | 55 Dūrmati . | 59 Krōdhana . | ... |
| 4304 | 1125 | 1260 | 609 | 377-78 | 1202-03 | 56 Dundubhi . | 60 Kahaya . | 3 Jyēshṭha . |
| 4305 | 1126 | 1261 | 610 | 378-79 | 1203-04 | 57 Rudhirōdgārin . | 1 Prabhava . | ... |
| 4306 | 1127 | 1262 | 611 | 379-80 | *1204-05 | 58 Raktāksha . | 2 Vibhava . | 6 Bhādrapada . |
| 4307 | 1128 | 1263 | 612 | 380-81 | 1205-06 | 59 Krōdhana . | 3 Śukla . | ... |
| 4308 | 1129 | 1264 | 613 | 381-82 | 1206-07 | 60 Kahaya . | 4 Pramōda . | ... |
| 4309 | 1130 | 1265 | 614 | 382-83 | 1207-08 | 1 Prabhava . | 5 Prajāpati . | 5 Śrāvaya . |
| 4310 | 1131 | 1266 | 615 | 383-84 | *1208-09 | 2 Vibhava . | 6 Aṅgīras . | ... |
| 4311 | 1132 | 1267 | 616 | 384-85 | 1209-10 | 3 Śukla . | 7 Śrīmukha . | ... |
| 4312 | 1133 | 1268 | 617 | 385-86 | 1210-11 | 4 Pramōda . | 8 Bhāva . | 3 Jyēshṭha . |
| 4313 | 1134 | 1269 | 618 | 386-87 | 1211-12 | 5 Prajāpati . | 9 Yuvan . | ... |
| 4314 | 1135 | 1270 | 619 | 387-88 | *1212-13 | 6 Aṅgīras . | 10 Dhātṛi . | { 8 Kārttika 9 Mārgaśīrṣa (<i>ksh.</i>) } |
| 4315 | 1136 | 1271 | 620 | 388-89 | 1213-14 | 7 Śrīmukha . | 11 Isvara . | |
| 4316 | 1137 | 1272 | 621 | 389-90 | 1214-15 | 8 Bhāva . | 12 Bahudhānya . | ... |
| 4317 | 1138 | 1273 | 622 | 390-91 | 1215-16 | 9 Yuvan . | 13 Pramāthin . | 6 Bhādrapada . |
| 4318 | 1139 | 1274 | 623 | 391-92 | *1216-17 | 10 Dhātṛi . | 14 Vikrama . | ... |
| 4319 | 1140 | 1275 | 624 | 392-93 | 1217-18 | 11 Isvara . | 15 Vṛiṣa . | ... |
| 4320 | 1141 | 1276 | 625 | 393-94 | 1218-19 | 12 Bahudhānya . | 16 Chitrabhānu . | 4 Āshāḍha . |
| 4321 | 1142 | 1277 | 626 | 394-95 | 1219-20 | 13 Pramāthin . | 17 Subhānu . | ... |
| 4322 | 1143 | 1278 | 627 | 395-96 | *1220-21 | 14 Vikrama . | 18 Tāraṇa . | ... |
| 4323 | 1144 | 1279 | 628 | 396-97 | 1221-22 | 15 Vṛiṣa . | 19 Pārthiva . | 3 Jyēshṭha . |
| 4324 | 1145 | 1280 | 629 | 397-98 | 1222-23 | 16 Chitrabhānu . | 20 Vyaya . | ... |
| 4325 | 1146 | 1281 | 630 | 398-99 | 1223-24 | 17 Subhānu . | 21 Sarvajit . | 6 Bhādrapada . |

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| COMMENCEMENT OF THE | | | | | | | | Kali year. |
|------------------------|--------------|--------------------------------------|---|---------------|-----------|----------|----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | |
| Day and month, A.D. | Week- day | Time of true Mēsha- sahkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 24 Mar. (83) | 4 Wed. | 2 25 55 | 27 Feb. (58) | 0 Sat. | 9777-8793 | 236-2261 | 205-8446 | 4301 |
| 23 Mar. (83) | 5 Thur. | 8 38 4 | 17 Mar. (77) | 6 Fri. | 9812-5617 | 171-8196 | 257-1551 | 4302 |
| 23 Mar. (82) | 6 Fri. | 14 50 13 | 7 Mar. (66) | 4 Wed. | 26-9166 | 55-3552 | 229-0666 | 4303 |
| 23 Mar. (82) | 0 Sat. | 21 2 22 | 25 Feb. (56) | 2 Mon. | 241-2713 | 938-8910 | 200-9741 | 4304 |
| 24 Mar. (83) | 2 Mon. | 3 14 30 | 16 Mar. (75) | 1 Sun. | 275-9537 | 874-6844 | 252-2946 | 4305 |
| 23 Mar. (83) | 3 Tues. | 9 26 39 | 4 Mar. (64) | 5 Thur. | 151-6766 | 722-1285 | 221-4714 | 4306 |
| 23 Mar. (82) | 4 Wed. | 15 38 48 | 23 Mar. (82) | 4 Wed. | 186-3589 | 658-1220 | 272-7818 | 4307 |
| 23 Mar. (82) | 5 Thur. | 21 50 57 | 12 Mar. (71) | 1 Sun. | 62-0918 | 505-3660 | 241-9586 | 4308 |
| 24 Mar. (83) | 0 Sat. | 4 3 6 | 1 Mar. (60) | 5 Thur. | 9937-8047 | 352-6101 | 211-1354 | 4309 |
| 23 Mar. (83) | 1 Sun. | 10 15 15 | 19 Mar. (79) | 4 Wed. | 9672-4870 | 288-6035 | 292-4459 | 4310 |
| 23 Mar. (82) | 2 Mon. | 16 27 23 | 8 Mar. (67) | 1 Sun. | 9843-2098 | 135-8475 | 231-6220 | 4311 |
| 23 Mar. (82) | 3 Tues. | 22 39 32 | 26 Feb. (57) | 6 Fri. | 62-5647 | 19-3832 | 203-5371 | 4312 |
| 24 Mar. (83) | 5 Thur. | 4 51 41 | 17 Mar. (76) | 5 Thur. | 97-2471 | 955-3767 | 254-8476 | 4313 |
| 23 Mar. (83) | 6 Fri. | 11 3 50 | 5 Mar. (65) | 2 Mon. | 9972-9699 | 802-6209 | 224-0244 | 4314 |
| 23 Mar. (82) | 0 Sat. | 17 15 59 | 23 Feb. (54) | 0 Sat. | 187-3447 | 686-1585 | 195-9390 | 4315 |
| 23 Mar. (82) | 1 Sun. | 23 28 8 | 14 Mar. (73) | 6 Fri. | 222-0072 | 622-1500 | 247-2493 | 4316 |
| 24 Mar. (83) | 3 Tues. | 5 40 16 | 3 Mar. (62) | 3 Tues. | 97-7299 | 468-4030 | 216-4262 | 4317 |
| 23 Mar. (83) | 4 Wed. | 11 52 25 | 20 Mar. (80) | 1 Sun. | 9793-7894 | 369-0958 | 264-9988 | 4318 |
| 23 Mar. (82) | 5 Thur. | 18 4 34 | 10 Mar. (69) | 6 Fri. | 8-1352 | 252-6315 | 236-9134 | 4319 |
| 24 Mar. (83) | 0 Sat. | 0 16 43 | 27 Feb. (58) | 3 Tues. | 9883-8581 | 99-8756 | 205-3826 | 4320 |
| 24 Mar. (83) | 1 Sun. | 6 28 52 | 18 Mar. (77) | 2 Mon. | 9918-5494 | 35-8691 | 257-4006 | 4321 |
| 23 Mar. (83) | 2 Mon. | 12 41 1 | 7 Mar. (67) | 0 Sat. | 132-8953 | 919-4048 | 229-3152 | 4322 |
| 23 Mar. (82) | 3 Tues. | 18 53 10 | 24 Feb. (55) | 4 Wed. | 8-6181 | 766-6488 | 198-4920 | 4323 |
| 24 Mar. (83) | 5 Thur. | 4 5 18 | 15 Mar. (74) | 3 Tues. | 43-3094 | 762-6423 | 249-8023 | 4324 |
| 24 Mar. (83) | 6 Fri. | 7 17 27 | 4 Mar. (63) | 0 Sat. | 9919-9233 | 549-8853 | 218-9792 | 4325 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māchakī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4326 | 1147 | 1282 | 631 | 399-00 | *1224-25 | 18 Tāmra . | 22 Sarvadhārin . | ... |
| 4327 | 1148 | 1283 | 632 | 400-01 | 1225-26 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4328 | 1149 | 1284 | 633 | 401-02 | 1226-27 | 20 Vyaya . | 24 Vikṛita . | 5 Śrāvāṇa . |
| 4329 | 1150 | 1285 | 634 | 402-03 | 1227-28 | 21 Sarvajit . | 25 Khara . | ... |
| 4330 | 1151 | 1286 | 635 | 403-04 | *1228-29 | 22 Sarvadhārin . | 26 Nandana . | ... |
| 4331 | 1152 | 1287 | 636 | 404-05 | 1229-30 | 23 Virōdhin . | 27 Vijaya . | 3 Jyēṣṭha . |
| 4332 | 1153 | 1288 | 637 | 405-06 | 1230-31 | 24 Vikṛita . | 28 Jaya . | ... |
| 4333 | 1154 | 1289 | 638 | 406-07 | 1231-32 | 25 Khara . | 29 Manmatha . | 8 Kārttika 10 Pousha(<i>ksh.</i>) |
| 4334 | 1155 | 1290 | 639 | 407-08 | *1232-33 | 26 Nandana . | 30 Darmukha . | |
| 4335 | 1156 | 1291 | 640 | 408-09 | 1233-34 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4336 | 1157 | 1292 | 641 | 409-10 | 1234-35 | 28 Jaya . | 32 Vilamba . | 5 Śrāvāṇa . |
| 4337 | 1158 | 1293 | 642 | 410-11 | 1235-36 | 29 Manmatha . | 33 Vikārin . | ... |
| 4338 | 1159 | 1294 | 643 | 411-12 | *1236-37 | 30 Darmukha . | 34 Śārvarin . | ... |
| 4339 | 1160 | 1295 | 644 | 412-13 | 1237-38 | 31 Hēmalamba . | 35 Plava . | 4 Āshāḍha . |
| 4340 | 1161 | 1296 | 645 | 413-14 | 1238-39 | 32 Vilamba . | 36 Subhakarit . | ... |
| 4341 | 1162 | 1297 | 646 | 414-15 | 1239-40 | 33 Vikārin . | 37 Śōbhana . | ... |
| 4342 | 1163 | 1298 | 647 | 415-16 | *1240-41 | 34 Śārvarin . | 38 Krōdhin . | 3 Jyēṣṭha . |
| 4343 | 1164 | 1299 | 648 | 416-17 | 1241-42 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4344 | 1165 | 1300 | 649 | 417-18 | 1242-43 | 36 Subhakarit . | 40 Parābhava . | 7 Āśvina† . |
| 4345 | 1166 | 1301 | 650 | 418-19 | 1243-44 | 37 Śōbhana . | 41 Plavaṅga . | ... |
| 4346 | 1167 | 1302 | 651 | 419-20 | *1244-45 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4347 | 1168 | 1303 | 652 | 420-21 | 1245-46 | 39 Viśvāvasu . | 43 Saumya . | 4 Āshāḍha . |
| 4348 | 1169 | 1304 | 653 | 421-22 | 1246-47 | 40 Parābhava . | 45 Virōdhakarit‡ . | ... |
| 4349 | 1170 | 1305 | 654 | 422-23 | 1247-48 | 41 Plavaṅga . | 46 Paridhārin . | ... |
| 4350 | 1171 | 1306 | 655 | 423-24 | *1248-49 | 42 Kilaka . | 47 Pramādin . | 3 Jyēṣṭha . |

† 44 Śādhārana was suppressed in the south

‡ See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SÜKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 23 Mar. (83) | 0 Sat. | 13 29 36 | 22 Mar. (82) | 6 Fri. | 9953-7057 | 485-8798 | 270-2896 | 4326 |
| 23 Mar. (82) | 1 Sun. | 19 41 45 | 11 Mar. (70) | 3 Tues. | 9829-4286 | 333-1238 | 230-4064 | 4327 |
| 24 Mar. (83) | 3 Tues. | 1 53 54 | 1 Mar. (60) | 1 Sun. | 43-7834 | 216-6596 | 211-3809 | 4328 |
| 24 Mar. (83) | 4 Wed. | 8 6 3 | 20 Mar. (79) | 0 Sat. | 78-4659 | 152-6531 | 262-6914 | 4329 |
| 23 Mar. (83) | 5 Thur. | 14 18 11 | 8 Mar. (68) | 4 Wed. | 9954-1886 | 999-8970 | 221-8682 | 4330 |
| 23 Mar. (82) | 6 Fri. | 20 30 20 | 26 Feb. (57) | 2 Mon. | 168-5434 | 885-4328 | 203-7827 | 4331 |
| 24 Mar. (83) | 1 Sun. | 2 42 29 | 17 Mar. (76) | 1 Sun. | 203-2258 | 819-4262 | 255-0931 | 4332 |
| 24 Mar. (83) | 2 Mon. | 8 54 38 | 6 Mar. (65) | 5 Thur. | 78-9487 | 666-6703 | 224-2699 | 4333 |
| 23 Mar. (83) | 3 Tues. | 15 6 47 | 23 Feb. (54) | 2 Mon. | 9954-6715 | 513-9144 | 193-4468 | 4334 |
| 23 Mar. (82) | 4 Wed. | 21 18 56 | 13 Mar. (72) | 1 Sun. | 9989-3539 | 449-9078 | 244-7571 | 4335 |
| 24 Mar. (83) | 6 Fri. | 3 31 4 | 2 Mar. (61) | 5 Thur. | 9865-0767 | 297-1519 | 213-9339 | 4336 |
| 24 Mar. (83) | 0 Sat. | 9 43 13 | 21 Mar. (80) | 4 Wed. | 9899-7592 | 233-1453 | 265-2439 | 4337 |
| 23 Mar. (83) | 1 Sun. | 15 55 22 | 9 Mar. (69) | 1 Sun. | 9775-4720 | 80-3894 | 234-4212 | 4338 |
| 23 Mar. (82) | 2 Mon. | 22 7 31 | 27 Feb. (58) | 6 Fri. | 9989-8369 | 963-9251 | 206-3357 | 4339 |
| 24 Mar. (83) | 4 Wed. | 4 19 40 | 18 Mar. (77) | 5 Thur. | 24-5192 | 899-9186 | 257-6462 | 4340 |
| 24 Mar. (83) | 5 Thur. | 10 31 49 | 8 Mar. (67) | 3 Tues. | 238-8741 | 783-4543 | 229-5607 | 4341 |
| 23 Mar. (83) | 6 Fri. | 16 43 57 | 25 Feb. (56) | 0 Sat. | 114-5968 | 630-6983 | 198-7375 | 4342 |
| 23 Mar. (82) | 0 Sat. | 22 56 6 | 15 Mar. (74) | 6 Fri. | 149-2792 | 566-6918 | 250-0479 | 4343 |
| 24 Mar. (83) | 2 Mon. | 5 18 5 | 4 Mar. (63) | 3 Tues. | 25-0021 | 413-0358 | 219-2248 | 4344 |
| 24 Mar. (83) | 3 Tues. | 11 20 24 | 23 Mar. (82) | 2 Mon. | 59-9845 | 349-9293 | 270-5351 | 4345 |
| 23 Mar. (83) | 4 Wed. | 17 32 33 | 11 Mar. (71) | 6 Fri. | 9935-4073 | 197-1733 | 239-7119 | 4346 |
| 23 Mar. (82) | 5 Thur. | 23 41 42 | 28 Feb. (59) | 3 Tues. | 9811-1302 | 44-4174 | 208-8887 | 4347 |
| 24 Mar. (83) | 0 Sat. | 5 56 51 | 19 Mar. (78) | 2 Mon. | 9845-8126 | 980-4109 | 260-1992 | 4348 |
| 24 Mar. (83) | 1 Sun. | 12 8 59 | 9 Mar. (68) | 0 Sat. | 60-1673 | 863-9465 | 232-1137 | 4349 |
| 23 Mar. (83) | 2 Mon. | 18 21 8 | 27 Feb. (58) | 5 Thur. | 274-5222 | 747-4823 | 204-9282 | 4350 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>koṣa</i> .) lunar months. |
|------------------|-------|----------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrañādi Vikrama. | Māghādi (polar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4351 | 1172 | 1307 | 656 | 424-25 | 1249-50 | 43 Saunhya . | 48 Ananda . | ... |
| 4352 | 1173 | 1308 | 657 | 425-26 | 1250-51 | 44 Sādhārāṇa . | 49 Rākṣasa . | 8 Kārttika . |
| 4353 | 1174 | 1309 | 658 | 426-27 | 1251-52 | 45 Virōdhakṛit . | 50 Anala . | ... |
| 4354 | 1175 | 1310 | 659 | 427-28 | *1252-53 | 46 Paridhāvin . | 51 Piṅgala . | ... |
| 4355 | 1176 | 1311 | 660 | 428-29 | 1253-54 | 47 Pramādin . | 52 Kālayukta . | 5 Śrāvāṇa . |
| 4356 | 1177 | 1312 | 661 | 429-30 | 1254-55 | 48 Ananda . | 53 Siddhārthin . | ... |
| 4357 | 1178 | 1313 | 662 | 430-31 | 1255-56 | 49 Rākṣasa . | 54 Raudra . | ... |
| 4358 | 1179 | 1314 | 663 | 431-32 | *1256-57 | 50 Anala . | 55 Durmati . | 4 Āshāḍha . |
| 4359 | 1180 | 1315 | 664 | 432-33 | 1257-58 | 51 Piṅgala . | 56 Dundubhi . | ... |
| 4360 | 1181 | 1316 | 665 | 433-34 | 1258-59 | 52 Kālayukta . | 57 Rudhirōdgārin . | ... |
| 4361 | 1182 | 1317 | 666 | 434-35 | 1259-60 | 53 Siddhārthin . | 58 Raktākṣa . | 2 Vaiśākha . |
| 4362 | 1183 | 1318 | 667 | 435-36 | *1260-61 | 54 Raudra . | 59 Krōdhana . | ... |
| 4363 | 1184 | 1319 | 668 | 436-37 | 1261-62 | 55 Durmati . | 60 Kṣaya . | 6 Bhādrapada . |
| 4364 | 1185 | 1320 | 669 | 437-38 | 1262-63 | 56 Dundubhi . | 1 Prabhava . | ... |
| 4365 | 1186 | 1321 | 670 | 438-39 | 1263-64 | 57 Rudhirōdgārin . | 2 Vibhava . | ... |
| 4366 | 1187 | 1322 | 671 | 439-40 | *1264-65 | 58 Raktākṣa . | 3 Sukla . | 4 Āshāḍha . |
| 4367 | 1188 | 1323 | 672 | 440-41 | 1265-66 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4368 | 1189 | 1324 | 673 | 441-42 | 1266-67 | 60 Kṣaya . | 5 Prajāpati . | ... |
| 4369 | 1190 | 1325 | 674 | 442-43 | 1267-68 | 1 Prabhava . | 6 Aṅgiras . | 3 Jyēṣṭha . |
| 4370 | 1191 | 1326 | 675 | 443-44 | *1268-69 | 2 Vibhava . | 7 Śrīmukha . | ... |
| 4371 | 1192 | 1327 | 676 | 444-45 | 1269-70 | 3 Sukla . | 8 Bhāva . | 8 Kārttika . |
| 4372 | 1193 | 1328 | 677 | 445-46 | 1270-71 | 4 Pramōda . | 9 Yuvan . | ... |
| 4373 | 1194 | 1329 | 678 | 446-47 | 1271-72 | 5 Prajāpati . | 10 Dhātṛi . | ... |
| 4374 | 1195 | 1330 | 679 | 447-48 | *1272-73 | 6 Aṅgiras . | 11 Iśvara . | 5 Śrāvāṇa . |
| 4375 | 1196 | 1331 | 680 | 448-49 | 1273-74 | 7 Śrīmukha . | 12 Bahudhānya . | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 24 Mar. (83) | 4 Wed. | 0 33 17 | 17 Mar. (76) | 4 Wed. | 300-2046 | 683-4757 | 255-3387 | 4351 |
| 24 Mar. (83) | 5 Thur. | 6 45 26 | 6 Mar. (65) | 1 Sun. | 184-9274 | 530-7198 | 224-4760 | 4352 |
| 24 Mar. (83) | 6 Fri. | 12 57 35 | 24 Mar. (83) | 6 Fri. | 9880-9778 | 430-4577 | 273-0881 | 4353 |
| 23 Mar. (83) | 0 Sat. | 19 9 44 | 12 Mar. (72) | 3 Tues. | 9756-7007 | 277-6657 | 242-2263 | 4354 |
| 24 Mar. (83) | 2 Mon. | 1 21 52 | 2 Mar. (61) | 1 Sun. | 9971-0555 | 161-2014 | 214-1705 | 4355 |
| 24 Mar. (83) | 3 Tues. | 7 34 1 | 21 Mar. (80) | 0 Sat. | 5-7379 | 97-1948 | 265-4799 | 4356 |
| 24 Mar. (83) | 4 Wed. | 13 46 10 | 10 Mar. (69) | 4 Wed. | 9881-4607 | 944-4349 | 234-6667 | 4357 |
| 23 Mar. (83) | 5 Thur. | 19 58 19 | 28 Feb. (59) | 2 Mon. | 95-8156 | 827-9746 | 208-5812 | 4358 |
| 24 Mar. (83) | 0 Sat. | 2 10 28 | 18 Mar. (77) | 1 Sun. | 130-4880 | 763-9681 | 257-8917 | 4359 |
| 24 Mar. (83) | 1 Sun. | 8 22 37 | 7 Mar. (66) | 5 Thur. | 6-2208 | 611-2122 | 227-0685 | 4360 |
| 24 Mar. (83) | 2 Mon. | 14 34 45 | 24 Feb. (55) | 2 Mon. | 9881-9436 | 458-4562 | 196-2453 | 4361 |
| 23 Mar. (83) | 3 Tues. | 20 46 54 | 14 Mar. (74) | 1 Sun. | 9916-6261 | 394-4497 | 247-5556 | 4362 |
| 24 Mar. (83) | 5 Thur. | 2 59 3 | 3 Mar. (62) | 5 Thur. | 9792-3488 | 241-6038 | 216-7225 | 4363 |
| 24 Mar. (83) | 6 Fri. | 9 11 12 | 22 Mar. (81) | 4 Wed. | 9827-0312 | 177-6872 | 268-0439 | 4364 |
| 24 Mar. (83) | 0 Sat. | 15 23 21 | 12 Mar. (71) | 2 Mon. | 41-3861 | 61-2229 | 239-9575 | 4365 |
| 23 Mar. (83) | 1 Sun. | 21 35 30 | 29 Feb. (60) | 6 Fri. | 9917-1090 | 908-4669 | 209-1342 | 4366 |
| 24 Mar. (83) | 3 Tues. | 3 47 38 | 19 Mar. (78) | 5 Thur. | 9951-7913 | 844-4665 | 260-4447 | 4367 |
| 24 Mar. (83) | 4 Wed. | 9 59 47 | 9 Mar. (68) | 3 Tues. | 166-1461 | 727-9961 | 232-3503 | 4368 |
| 24 Mar. (83) | 5 Thur. | 16 11 56 | 26 Feb. (57) | 0 Sat. | 41-8690 | 575-2401 | 201-5360 | 4369 |
| 23 Mar. (83) | 6 Fri. | 22 24 5 | 16 Mar. (76) | 6 Fri. | 76-5513 | 511-2337 | 262-8464 | 4370 |
| 24 Mar. (83) | 1 Sun. | 4 36 14 | 5 Mar. (64) | 3 Tues. | 9962-2742 | 358-4777 | 222-0232 | 4371 |
| 24 Mar. (83) | 2 Mon. | 10 28 23 | 24 Mar. (83) | 2 Mon. | 9986-9566 | 294-4712 | 273-3337 | 4372 |
| 24 Mar. (83) | 3 Tues. | 17 0 32 | 13 Mar. (72) | 6 Fri. | 9862-6795 | 141-7152 | 242-5105 | 4373 |
| 23 Mar. (83) | 4 Wed. | 23 17 40 | 2 Mar. (62) | 4 Wed. | 77-0342 | 25-2509 | 214-4256 | 4374 |
| 24 Mar. (83) | 6 Fri. | 5 24 49 | 21 Mar. (80) | 3 Tues. | 111-7167 | 941-2444 | 265-7354 | 4375 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|---------------------------------------|---------|----------|---------------------|---------------------|--|
| Kalī. | Saka. | Chaitrīdī Vikrama. | Mōś'ādī (solar) year in Bengal. | Kollām. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4376 | 1197 | 1332 | 681 | 449-50 | 1274-75 | 8 Bhōva . . | 13 Pramāthin . | ... |
| 4377 | 1198 | 1333 | 682 | 450-51 | 1275-76 | 9 Yuvan . . | 14 Vikrama . | 4 Āshāḍha |
| 4378 | 1199 | 1334 | 683 | 451-52 | *1276-77 | 10 Dhātṛī . . | 15 Vṛisha . . | ... |
| 4379 | 1200 | 1335 | 684 | 452-53 | 1277-78 | 11 Īvara . . | 16 Chitrabhānu . | ... |
| 4380 | 1201 | 1336 | 685 | 453-54 | 1278-79 | 12 Bahudhānya . | 17 Subhānu . | 2 Vaiśākha . |
| 4381 | 1202 | 1337 | 686 | 454-55 | 1279-80 | 13 Pramāthin . | 18 Tāraṇa . . | ... |
| 4382 | 1203 | 1338 | 687 | 455-56 | *1280-81 | 14 Vikrama . . | 19 Pārthiva . . | 6 Bhādrapada |
| 4383 | 1204 | 1339 | 688 | 456-57 | 1281-82 | 15 Vṛisha . . | 20 Vyaya . . | ... |
| 4384 | 1205 | 1340 | 689 | 457-58 | 1282-83 | 16 Chitrabhānu . | 21 Sarvajit . . | ... |
| 4385 | 1206 | 1341 | 690 | 458-59 | 1283-84 | 17 Subhānu . . | 22 Sarvadhārin . | 4 Āshāḍha . |
| 4386 | 1207 | 1342 | 691 | 459-60 | *1284-85 | 18 Tāraṇa . . | 23 Virōdhin . . | ... |
| 4387 | 1208 | 1343 | 692 | 460-61 | 1285-86 | 19 Pārthiva . . | 24 Vikṛita . . | ... |
| 4388 | 1209 | 1344 | 693 | 461-62 | 1286-87 | 20 Vyaya . . | 25 Khara . . | 3 Jyēṣṭha |
| 4389 | 1210 | 1345 | 694 | 462-63 | 1287-88 | 21 Sarvajit . . | 26 Nandana . . | ... |
| 4390 | 1211 | 1346 | 695 | 463-64 | *1288-89 | 22 Sarvadhārin . | 27 Vijaya . . | 8 Kārttika . |
| 4391 | 1212 | 1347 | 696 | 464-65 | 1289-90 | 23 Virōdhin . . | 28 Jaya . . | ... |
| 4392 | 1213 | 1348 | 697 | 465-66 | 1290-91 | 24 Vikṛita . . | 29 Manmatha . . | ... |
| 4393 | 1214 | 1349 | 698 | 466-67 | 1291-92 | 25 Khara . . | 30 Durmukha . | 5 Śrāva . . |
| 4394 | 1215 | 1350 | 699 | 467-68 | *1292-93 | 26 Nandana . . | 31 Hēmalamba . | ... |
| 4395 | 1216 | 1351 | 700 | 468-69 | 1293-94 | 27 Vijaya . . | 32 Vilamba . . | ... |
| 4396 | 1217 | 1352 | 701 | 469-70 | 1294-95 | 28 Jaya . . | 33 Vikārin . . | 4 Āshāḍha . |
| 4397 | 1218 | 1353 | 702 | 470-71 | 1295-96 | 29 Manmatha . | 34 Sārvara . . | ... |
| 4398 | 1219 | 1354 | 703 | 471-72 | *1296-97 | 30 Durmukha . | 35 Plava . . | ... |
| 4399 | 1220 | 1355 | 704 | 472-73 | 1297-98 | 31 Hēmalamba . | 36 Subhakṛit . | 2 Vaiśākha . |
| 4400 | 1221 | 1356 | 705 | 473-74 | 1298-99 | 32 Vilamba . . | 37 Śōbhana . . | ... |

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 24 Mar. (83) | 0 Sat. | 11 36 58 | 10 Mar. (69) | 0 Sat. | 9987-4393 | 808-4684 | 234-9123 | 4376 | |
| 24 Mar. (83) | 1 Sun. | 17 49 7 | 28 Feb. (59) | 5 Thur. | 291-7943 | 692-0241 | 296-8268 | 4377 | |
| 24 Mar. (84) | 3 Tues. | 0 1 16 | 18 Mar. (78) | 4 Wed. | 236-4767 | 628-0176 | 258-1372 | 4378 | |
| 24 Mar. (83) | 4 Wed. | 6 13 25 | 7 Mar. (66) | 1 Sun. | 112-1996 | 475-2617 | 227-3140 | 4379 | |
| 24 Mar. (83) | 5 Thur. | 12 25 33 | 24 Feb. (55) | 5 Thur. | 9987-9234 | 322-5057 | 196-4909 | 4380 | |
| 24 Mar. (83) | 6 Fri. | 18 37 42 | 15 Mar. (74) | 4 Wed. | 22-6948 | 258-4092 | 247-8912 | 4381 | |
| 24 Mar. (84) | 1 Sun. | 0 49 51 | 3 Mar. (63) | 1 Sun. | 9898-3276 | 195-7433 | 216-9780 | 4382 | |
| 24 Mar. (83) | 2 Mon. | 7 2 0 | 22 Mar. (81) | 0 Sat. | 9933-0109 | 41-7367 | 268-2884 | 4383 | |
| 24 Mar. (83) | 3 Tues. | 13 14 9 | 12 Mar. (71) | 5 Thur. | 147-3648 | 925-2684 | 240-2031 | 4384 | |
| 24 Mar. (83) | 4 Wed. | 19 26 18 | 1 Mar. (60) | 2 Mon. | 23-0877 | 772-5164 | 209-3798 | 4385 | |
| 24 Mar. (84) | 6 Fri. | 1 38 26 | 19 Mar. (79) | 1 Sun. | 57-7709 | 797-5099 | 260-6902 | 4386 | |
| 24 Mar. (83) | 0 Sat. | 7 50 35 | 8 Mar. (67) | 5 Thur. | 9933-4930 | 335-7540 | 229-8670 | 4387 | |
| 24 Mar. (83) | 1 Sun. | 14 2 44 | 25 Feb. (56) | 2 Mon. | 9809-2157 | 402-9980 | 199-0438 | 4388 | |
| 24 Mar. (83) | 2 Mon. | 20 14 53 | 16 Mar. (75) | 1 Sun. | 9843-8981 | 338-9914 | 250-4042 | 4389 | |
| 24 Mar. (84) | 4 Wed. | 2 27 2 | 4 Mar. (64) | 5 Thur. | 9719-6219 | 186-2355 | 219-5310 | 4390 | |
| 24 Mar. (83) | 5 Thur. | 8 39 11 | 23 Mar. (82) | 4 Wed. | 9754-3934 | 122-2398 | 279-8414 | 4391 | |
| 24 Mar. (83) | 6 Fri. | 14 51 19 | 13 Mar. (72) | 2 Mon. | 9968-6982 | 5-7647 | 242-7560 | 4392 | |
| 24 Mar. (83) | 0 Sat. | 21 3 28 | 3 Mar. (62) | 0 Sat. | 183-0139 | 889-3904 | 214-6706 | 4393 | |
| 24 Mar. (84) | 2 Mon. | 3 15 37 | 21 Mar. (81) | 6 Fri. | 217-6855 | 825-2939 | 265-9809 | 4394 | |
| 24 Mar. (83) | 3 Tues. | 9 27 46 | 10 Mar. (69) | 3 Tues. | 93-4182 | 672-6380 | 235-1578 | 4395 | |
| 24 Mar. (83) | 4 Wed. | 15 39 55 | 27 Feb. (58) | 0 Sat. | 9969-1412 | 519-7820 | 204-3346 | 4396 | |
| 24 Mar. (83) | 5 Thur. | 21 52 4 | 18 Mar. (77) | 6 Fri. | 3-8235 | 455-7754 | 255-6450 | 4397 | |
| 24 Mar. (84) | 0 Sat. | 4 4 12 | 6 Mar. (66) | 3 Tues. | 9879-5463 | 393-0195 | 224-8217 | 4398 | |
| 24 Mar. (83) | 1 Sun. | 10 16 21 | 23 Feb. (54) | 0 Sat. | 9755-2691 | 150-2636 | 193-9986 | 4399 | |
| 24 Mar. (83) | 2 Mon. | 16 28 30 | 14 Mar. (73) | 6 Fri. | 9789-9516 | 86-2571 | 242-2990 | 4400 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4401 | 1222 | 1357 | 706 | 474-75 | 1299-1300 | 33 Viṅgarin . | 38 Krōdhin . | 6 Bhādrapada |
| 4402 | 1223 | 1358 | 707 | 475-76 | *1300-01 | 34 Śārvarin . | 39 Viśvāvasu . | ... |
| 4403 | 1224 | 1359 | 708 | 476-77 | 1301-02 | 35 Plava . | 40 Parābhava . | ... |
| 4404 | 1225 | 1360 | 709 | 477-78 | 1302-03 | 36 Śubhakṛit . | 41 Plavaṅga . | 4 Āshāḍha . |
| 4405 | 1226 | 1361 | 710 | 478-79 | 1303-04 | 37 Śōbhana . | 42 Kīlaka . | ... |
| 4406 | 1227 | 1362 | 711 | 479-80 | *1304-05 | 38 Krōdhin . | 43 Saumya . | ... |
| 4407 | 1228 | 1363 | 712 | 480-81 | 1305-06 | 39 Viśvāvasu . | 44 Sādhāraṇa . | 3 Jyēṣṭha . |
| 4408 | 1229 | 1364 | 713 | 481-82 | 1306-07 | 40 Parābhava . | 45 Virōdhakṛit . | { 7 Āvina. 11 Māgha(<i>ksh.</i>) 12 Phālguna |
| 4409 | 1230 | 1365 | 714 | 482-83 | 1307-08 | 41 Plavaṅga . | 46 Paridhāvin . | |
| 4410 | 1231 | 1366 | 715 | 483-84 | *1308-09 | 42 Kīlaka . | 47 Pramādin . | |
| 4411 | 1232 | 1367 | 716 | 484-85 | 1309-10 | 43 Saumya . | 48 Ānanda . | ... |
| 4412 | 1233 | 1368 | 717 | 485-86 | 1310-11 | 44 Sādhāraṇa . | 49 Rākṣasa . | 5 Śrāvaṇa . |
| 4413 | 1234 | 1369 | 718 | 486-87 | 1311-12 | 45 Virōdhakṛit . | 50 Anala . | ... |
| 4414 | 1235 | 1370 | 719 | 487-88 | *1312-13 | 46 Paridhāvin . | 51 Pīṅgala . | ... |
| 4415 | 1236 | 1371 | 720 | 488-89 | 1313-14 | 47 Pramādin . | 52 Kālayukta . | 4 Āshāḍha . |
| 4416 | 1237 | 1372 | 721 | 489-90 | 1314-15 | 48 Ānanda . | 53 Siddhārthīn . | ... |
| 4417 | 1238 | 1373 | 722 | 490-91 | 1315-16 | 49 Rākṣasa . | 54 Raudra . | ... |
| 4418 | 1239 | 1274 | 723 | 491-92 | *1316-17 | 50 Anala . | 55 Durmati . | 1 Chaitra† . |
| 4419 | 1240 | 1375 | 724 | 492-93 | 1317-18 | 51 Pīṅgala . | 56 Dandubhī . | ... |
| 4420 | 1241 | 1376 | 725 | 493-94 | 1318-19 | 52 Kālayukta . | 57 Rudhīrōdgārin . | 6 Bhādrapada |
| 4421 | 1242 | 1377 | 726 | 494-95 | 1319-20 | 53 Siddhārthīn . | 58 Raktākṣha . | ... |
| 4422 | 1243 | 1378 | 727 | 495-96 | *1320-21 | 54 Raudra . | 59 Krōdhana . | ... |
| 4423 | 1244 | 1379 | 728 | 496-97 | 1321-22 | 55 Durmati . | 60 Kṣhaya . | 4 Āshāḍha . |
| 4424 | 1245 | 1380 | 729 | 497-98 | 1322-23 | 56 Dandubhī . | 1 Prabhava . | ... |
| 4425 | 1246 | 1381 | 730 | 498-99 | 1323-24 | 57 Rudhīrōdgārin . | 2 Vibhava . | ... |

† See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 24 Mar. (83) | 3 Tues. | 22 40 39 | 4 Mar. (63) | 4 Wed. | 4-3064 | 969-7928 | 217-1430 | 4401 | |
| 24 Mar. (84) | 5 Thur. | 4 52 48 | 22 Mar. (82) | 3 Tues. | 38-9888 | 905-7863 | 268-4534 | 4402 | |
| 24 Mar. (83) | 6 Fri. | 11 4 57 | 12 Mar. (71) | 1 Sun. | 233-3437 | 789-3219 | 249-3680 | 4403 | |
| 24 Mar. (83) | 0 Sat. | 17 17 6 | 1 Mar. (60) | 5 Thur. | 129-0665 | 636-5660 | 209-5447 | 4404 | |
| 24 Mar. (83) | 1 Sun. | 23 19 14 | 20 Mar. (79) | 4 Wed. | 163-7489 | 572-5594 | 260-8552 | 4405 | |
| 24 Mar. (84) | 3 Tues. | 5 41 23 | 8 Mar. (68) | 1 Sun. | 39-4718 | 419-8035 | 230-0320 | 4406 | |
| 24 Mar. (83) | 4 Wed. | 11 53 32 | 25 Feb. (56) | 5 Thur. | 9915-1945 | 267-0476 | 199-2089 | 4407 | |
| 24 Mar. (83) | 5 Thur. | 18 5 41 | 16 Mar. (75) | 4 Wed. | 9949-8769 | 203-0410 | 250-5181 | 4408 | |
| 25 Mar. (84) | 0 Sat. | 0 17 50 | 5 Mar. (64) | 1 Sun. | 9825-5908 | 50-2851 | 219-6960 | 4409 | |
| 24 Mar. (84) | 1 Sun. | 6 26 59 | 23 Mar. (83) | 0 Sat. | 9860-2821 | 986-2785 | 271-0064 | 4410 | |
| 24 Mar. (83) | 2 Mon. | 12 42 7 | 13 Mar. (72) | 5 Thur. | 74-6370 | 869-8142 | 242-9209 | 4411 | |
| 24 Mar. (83) | 3 Tues. | 18 54 16 | 3 Mar. (62) | 3 Tues. | 288-9918 | 753-3499 | 218-8355 | 4412 | |
| 25 Mar. (84) | 5 Thur. | 1 6 25 | 21 Mar. (80) | 1 Sun. | 9985-0423 | 653-0518 | 263-4082 | 4413 | |
| 24 Mar. (84) | 6 Fri. | 7 18 34 | 10 Mar. (70) | 6 Fri. | 199-3970 | 536-5875 | 235-3128 | 4414 | |
| 24 Mar. (83) | 0 Sat. | 13 30 43 | 27 Feb. (58) | 3 Tues. | 75-1199 | 383-8315 | 204-4995 | 4415 | |
| 24 Mar. (83) | 1 Sun. | 19 42 52 | 17 Mar. (76) | 1 Sun. | 9771-1703 | 283-5334 | 253-0721 | 4416 | |
| 25 Mar. (84) | 3 Tues. | 1 55 0 | 7 Mar. (66) | 6 Fri. | 9985-5251 | 167-0780 | 234-9867 | 4417 | |
| 24 Mar. (84) | 4 Wed. | 8 7 9 | 24 Feb. (55) | 3 Tues. | 9861-2476 | 14-3131 | 194-1636 | 4418 | |
| 24 Mar. (83) | 5 Thur. | 14 19 18 | 14 Mar. (73) | 2 Mon. | 9895-9304 | 950-3066 | 245-4739 | 4419 | |
| 24 Mar. (83) | 6 Fri. | 20 31 27 | 4 Mar. (63) | 0 Sat. | 110-2852 | 833-8423 | 217-2885 | 4420 | |
| 25 Mar. (84) | 1 Sun. | 2 43 36 | 23 Mar. (82) | 6 Fri. | 144-9675 | 769-8358 | 268-6989 | 4421 | |
| 24 Mar. (84) | 2 Mon. | 8 55 45 | 11 Mar. (71) | 3 Tues. | 20-7024 | 617-7098 | 237-8758 | 4422 | |
| 24 Mar. (83) | 3 Tues. | 15 7 54 | 28 Feb. (59) | 0 Sat. | 9896-3133 | 464-3239 | 207-0525 | 4423 | |
| 24 Mar. (83) | 4 Wed. | 21 20 2 | 19 Mar. (78) | 6 Fri. | 9931-0956 | 500-3174 | 258-3619 | 4424 | |
| 25 Mar. (84) | 6 Fri. | 3 12 11 | 8 Mar. (67) | 3 Tues. | 9806-8185 | 247-5614 | 227-5397 | 4425 | |



TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4426 | 1247 | 1382 | 731 | 499-500 | *1324-25 | 58 Raktāksha | 3 Śukla | 2 Vaiśākha |
| 4427 | 1248 | 1383 | 732 | 500-01 | 1325-26 | 59 Kródhana | 4 Pramōda | ... |
| 4428 | 1249 | 1384 | 733 | 501-02 | 1326-27 | 60 Kshaya | 5 Prajāpati | 6 Bhādrapada |
| 4429 | 1250 | 1385 | 734 | 502-03 | 1327-28 | 1 Prabhava | 6 Āngirasa | ... |
| 4430 | 1251 | 1386 | 735 | 503-04 | *1328-29 | 2 Vibhava | 7 Śrīmukha | ... |
| 4431 | 1252 | 1387 | 736 | 504-05 | 1329-30 | 3 Śukla | 8 Bhāva | 5 Śrāvaga |
| 4432 | 1253 | 1388 | 737 | 505-06 | 1330-31 | 4 Pramōda | 9 Yuvan† | ... |
| 4433 | 1254 | 1389 | 738 | 506-07 | 1331-32 | 5 Prajāpati | 11 Īvara | ... |
| 4434 | 1255 | 1390 | 739 | 507-08 | *1332-33 | 6 Āngirasa | 12 Bahudhānya | 3 Jyēṣṭha |
| 4435 | 1256 | 1391 | 740 | 508-09 | 1333-34 | 7 Śrīmukha | 13 Pramāthin | ... |
| 4436 | 1257 | 1392 | 741 | 509-10 | 1334-35 | 8 Bhāva | 14 Vikrama | ... |
| 4437 | 1258 | 1393 | 742 | 510-11 | 1335-36 | 9 Yuvan | 15 Vriśa | 2 Vaiśākha |
| 4438 | 1259 | 1394 | 743 | 511-12 | *1336-37 | 10 Dhātri | 16 Chitrabhānu | ... |
| 4439 | 1260 | 1395 | 744 | 512-13 | 1337-38 | 11 Īvara | 17 Subhānu | 6 Bhādrapada |
| 4440 | 1261 | 1396 | 745 | 513-14 | 1338-39 | 12 Bahudhānya | 18 Tāraṇa | ... |
| 4441 | 1262 | 1397 | 746 | 514-15 | 1339-40 | 13 Pramāthin | 19 Pārthiva | ... |
| 4442 | 1263 | 1398 | 747 | 515-16 | *1340-41 | 14 Vikrama | 20 Vyaya | 4 Āshāḍha |
| 4443 | 1264 | 1399 | 748 | 516-17 | 1341-42 | 15 Vriśa | 21 Sarvajit. | ... |
| 4444 | 1265 | 1400 | 749 | 517-18 | 1342-43 | 16 Chitrabhānu | 22 Sarvadhārin | ... |
| 4445 | 1266 | 1401 | 750 | 518-19 | 1343-44 | 17 Subhānu | 23 Virōdhin | 2 Vaiśākha |
| 4446 | 1267 | 1402 | 751 | 519-20 | *1344-45 | 18 Tāraṇa | 24 Vikrita | ... |
| 4447 | 1268 | 1403 | 752 | 520-21 | 1345-46 | 19 Pārthiva | 25 Khara | 6 Bhādrapada |
| 4448 | 1269 | 1404 | 753 | 521-22 | 1346-47 | 20 Vyaya | 26 Nandana | ... |
| 4449 | 1270 | 1405 | 754 | 522-23 | 1347-48 | 21 Sarvajit | 27 Vijaya | ... |
| 4450 | 1271 | 1406 | 755 | 523-24 | *1348-49 | 22 Sarvadhārin | 28 Jaya | 5 Śrāvaga |

† 10 Dhātri was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 24 Mar. (84) | 0 Sat. | 9 44 20 | 26 Feb. (57) | 1 Sun. | 21-1733 | 131-0971 | 199-4543 | 4426 |
| 24 Mar. (83) | 1 Sun. | 15 56 29 | 16 Mar. (75) | 0 Sat. | 58-8557 | 67-0905 | 250-7647 | 4427 |
| 24 Mar. (83) | 2 Mon. | 22 8 38 | 5 Mar. (64) | 4 Wed. | 9931-5785 | 914-3346 | 219-9415 | 4428 |
| 25 Mar. (84) | 4 Wed. | 4 20 47 | 24 Mar. (83) | 3 Tues. | 9966-2609 | 850-3281 | 271-2519 | 4429 |
| 24 Mar. (84) | 5 Thur. | 10 32 55 | 13 Mar. (73) | 1 Sun. | 180-6158 | 733-8637 | 243-1665 | 4430 |
| 24 Mar. (83) | 6 Fri. | 16 45 4 | 2 Mar. (61) | 5 Thur. | 56-3286 | 581-1079 | 212-3433 | 4431 |
| 24 Mar. (83) | 0 Sat. | 22 57 13 | 21 Mar. (80) | 4 Wed. | 91-0210 | 517-1013 | 263-7537 | 4432 |
| 25 Mar. (84) | 2 Mon. | 5 9 22 | 10 Mar. (69) | 1 Sun. | 9966-7438 | 364-3453 | 232-8305 | 4433 |
| 24 Mar. (84) | 3 Tues. | 11 21 31 | 27 Feb. (58) | 5 Thur. | 9842-4667 | 211-5894 | 202-0073 | 4434 |
| 24 Mar. (83) | 4 Wed. | 17 33 40 | 17 Mar. (76) | 4 Wed. | 9877-1490 | 147-5829 | 253-3177 | 4435 |
| 24 Mar. (83) | 5 Thur. | 23 45 48 | 7 Mar. (66) | 2 Mon. | 91-5129 | 31-1186 | 225-2422 | 4436 |
| 25 Mar. (84) | 0 Sat. | 5 57 57 | 24 Feb. (55) | 6 Fri. | 9967-2267 | 878-3626 | 194-4091 | 4437 |
| 24 Mar. (84) | 1 Sun. | 12 10 6 | 14 Mar. (74) | 5 Thur. | -8992 | 814-3561 | 245-7195 | 4438 |
| 24 Mar. (83) | 2 Mon. | 18 22 15 | 4 Mar. (63) | 3 Tues. | 216-2639 | 697-8918 | 217-5941 | 4439 |
| 25 Mar. (84) | 4 Wed. | 0 34 24 | 23 Mar. (82) | 2 Mon. | 250-9463 | 634-8853 | 268-9445 | 4440 |
| 25 Mar. (84) | 5 Thur. | 6 46 33 | 12 Mar. (71) | 6 Fri. | 126-6692 | 481-1293 | 238-1213 | 4441 |
| 24 Mar. (84) | 6 Fri. | 12 58 42 | 29 Feb. (60) | 3 Tues. | 2-3920 | 328-3733 | 207-2981 | 4442 |
| 24 Mar. (83) | 0 Sat. | 19 10 50 | 19 Mar. (78) | 2 Mon. | 37-0744 | 264-3669 | 258-6085 | 4443 |
| 25 Mar. (84) | 2 Mon. | 1 22 59 | 8 Mar. (67) | 6 Fri. | 9912-7973 | 111-6109 | 227-7853 | 4444 |
| 25 Mar. (84) | 3 Tues. | 7 35 8 | 26 Feb. (57) | 4 Wed. | 127-1521 | 995-1466 | 199-6995 | 4445 |
| 24 Mar. (84) | 4 Wed. | 13 47 17 | 16 Mar. (76) | 3 Tues. | 161-8344 | 931-1400 | 251-0102 | 4446 |
| 24 Mar. (83) | 5 Thur. | 19 59 26 | 5 Mar. (64) | 0 Sat. | 37-5573 | 778-3841 | 230-1871 | 4447 |
| 25 Mar. (84) | 0 Sat. | 2 11 35 | 24 Mar. (83) | 6 Fri. | 72-2397 | 714-3776 | 271-4975 | 4448 |
| 25 Mar. (84) | 1 Sun. | 8 23 43 | 13 Mar. (72) | 3 Tues. | 9947-9625 | 561-6216 | 240-6743 | 4449 |
| 24 Mar. (84) | 2 Mon. | 14 35 52 | 1 Mar. (61) | 0 Sat. | 9823-6854 | 408-8657 | 209-8510 | 4450 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>leap</i> .) lunar months. |
|------------------|-------|--------------------|-----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māhādī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4451 | 1272 | 1407 | 756 | 524-25 | 1349-50 | 23 Virōdhin . | 29 Manmatha . | ... |
| 4452 | 1273 | 1408 | 757 | 525-26 | 1350-51 | 24 Vikṛita . | 30 Durmukha . | ... |
| 4453 | 1274 | 1409 | 758 | 526-27 | 1351-52 | 25 Khara . | 31 Hēmalamba . | 3 Jyēṣṭha . |
| 4454 | 1275 | 1410 | 759 | 527-28 | *1352-53 | 26 Nandana . | 32 Vilamba . | ... |
| 4455 | 1276 | 1411 | 760 | 528-29 | 1353-54 | 27 Vijaya . | 33 Vikārin . | { 8 Kārttika 9 Mārgaś (<i>leap</i> .) } |
| 4456 | 1277 | 1412 | 761 | 529-30 | 1354-55 | 28 Jaya . | 34 Śārvarin . | 2 Vaiśākha . |
| 4457 | 1278 | 1413 | 762 | 530-31 | 1355-56 | 29 Manmatha . | 35 Plava . | ... |
| 4458 | 1279 | 1414 | 763 | 531-32 | *1356-57 | 30 Durmukha . | 36 Śubhakṛit . | 6 Bhādrapada . |
| 4459 | 1280 | 1415 | 764 | 532-33 | 1357-58 | 31 Hēmalamba . | 37 Śobhana . | ... |
| 4460 | 1281 | 1416 | 765 | 533-34 | 1358-59 | 32 Vilamba . | 38 Krōdhin . | ... |
| 4461 | 1282 | 1417 | 766 | 534-35 | 1359-60 | 33 Vikārin . | 39 Viśvāvasu . | 4 Āṣāḍha . |
| 4462 | 1283 | 1418 | 767 | 535-36 | *1360-61 | 34 Śārvarin . | 40 Parābhava . | ... |
| 4463 | 1284 | 1419 | 768 | 536-37 | 1361-62 | 35 Plava . | 41 Plavaṅga . | ... |
| 4464 | 1285 | 1420 | 769 | 537-38 | 1362-63 | 36 Śubhakṛit . | 42 Kṛika . | 2 Vaiśākha . |
| 4465 | 1286 | 1421 | 770 | 538-39 | 1363-64 | 37 Śobhana . | 43 Saumya . | ... |
| 4466 | 1287 | 1422 | 771 | 539-40 | *1364-65 | 38 Krōdhin . | 44 Sādhārāga . | 6 Bhādrapada . |
| 4467 | 1288 | 1423 | 772 | 540-41 | 1365-66 | 39 Viśvāvasu . | 45 Virōdhakṛit . | ... |
| 4468 | 1289 | 1424 | 773 | 541-42 | 1366-67 | 40 Parābhava . | 46 Paridhāvin . | ... |
| 4469 | 1290 | 1425 | 774 | 542-43 | 1367-68 | 41 Plavaṅga . | 47 Pramādin . | 5 Śrāvaga . |
| 4470 | 1291 | 1426 | 775 | 543-44 | *1368-69 | 42 Kṛika . | 48 Ānanda . | ... |
| 4471 | 1292 | 1427 | 776 | 544-45 | 1369-70 | 43 Saumya . | 49 Rākhaṣa . | ... |
| 4472 | 1293 | 1428 | 777 | 545-46 | 1370-71 | 44 Sādhārāga . | 50 Anala . | 3 Jyēṣṭha . |
| 4473 | 1294 | 1429 | 778 | 546-47 | 1371-72 | 45 Virōdhakṛit . | 51 Piṅgala . | ... |
| 4474 | 1295 | 1430 | 779 | 547-48 | *1372-73 | 46 Paridhāvin . | 52 Kālayukta . | { 7 Āvina 10 Pauṣa (<i>leap</i> .) } |
| 4475 | 1296 | 1431 | 780 | 548-49 | 1373-74 | 47 Pramādin . | 53 Siddhārthin . | 1 Chaitra . |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 21 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 24 Mar. (83) | 3 Tues. . | 20 48 1 | 20 Mar. (79) | 6 Fri. . | 9858-3678 | 344-8591 | 261-1616 | 4451 |
| 25 Mar. (84) | 5 Thur. | 3 0 10 | 9 Mar. (68) | 3 Tues. . | 9734-0906 | 192-0932 | 230-3383 | 4452 |
| 25 Mar. (84) | 6 Fri. . | 9 12 19 | 27 Feb. (58) | 1 Sun. . | 9948-4454 | 75-6749 | 202-2528 | 4453 |
| 24 Mar. (84) | 0 Sat. . | 15 24 28 | 17 Mar. (77) | 0 Sat. . | 9983-1278 | 11-6324 | 253-5632 | 4454 |
| 24 Mar. (83) | 1 Sun. . | 21 36 36 | 7 Mar. (66) | 5 Thur. | 197-4827 | 895-1681 | 225-4778 | 4455 |
| 25 Mar. (84) | 3 Tues. . | 3 48 45 | 24 Feb. (55) | 2 Mon. . | 73-2054 | 742-4122 | 194-6547 | 4456 |
| 25 Mar. (84) | 4 Wed. . | 10 0 54 | 15 Mar. (74) | 1 Sun. . | 107-8879 | 678-4056 | 245-9056 | 4457 |
| 24 Mar. (84) | 5 Thur. | 16 13 3 | 3 Mar. (63) | 5 Thur. | 0983-6107 | 526-6596 | 215-1418 | 4458 |
| 24 Mar. (83) | 6 Fri. . | 22 25 12 | 22 Mar. (81) | 4 Wed. . | 18-2932 | 461-6431 | 266-4522 | 4459 |
| 25 Mar. (84) | 1 Sun. . | 4 37 21 | 11 Mar. (70) | 1 Sun. . | 9894-0159 | 309-8872 | 235-6291 | 4460 |
| 25 Mar. (84) | 2 Mon. . | 10 49 29 | 28 Feb. (59) | 5 Thur. | 9769-7388 | 156-1313 | 204-8058 | 4461 |
| 24 Mar. (84) | 3 Tues. . | 17 1 38 | 18 Mar. (78) | 4 Wed. . | 9804-4212 | 92-1247 | 256-1162 | 4462 |
| 24 Mar. (83) | 4 Wed. . | 23 13 47 | 8 Mar. (67) | 2 Mon. . | 18-7760 | 975-6605 | 228-0308 | 4463 |
| 25 Mar. (84) | 6 Fri. . | 5 25 56 | 26 Feb. (57) | 0 Sat. . | 233-1308 | 850-1961 | 199-9454 | 4464 |
| 25 Mar. (84) | 0 Sat. . | 11 38 5 | 17 Mar. (76) | 6 Fri. . | 267-8132 | 795-1890 | 251-2558 | 4465 |
| 24 Mar. (84) | 1 Sun. . | 17 50 14 | 5 Mar. (65) | 3 Tues. . | 143-5361 | 642-4536 | 220-4326 | 4466 |
| 25 Mar. (84) | 3 Tues. . | 0 2 23 | 24 Mar. (83) | 2 Mon. . | 178-2184 | 578-4271 | 271-7430 | 4467 |
| 25 Mar. (84) | 4 Wed. . | 6 14 31 | 13 Mar. (72) | 6 Fri. . | 53-9413 | 425-6712 | 245-9199 | 4468 |
| 25 Mar. (84) | 5 Thur. | 12 26 40 | 2 Mar. (61) | 3 Tues. . | 9929-6642 | 272-9152 | 215-0966 | 4469 |
| 24 Mar. (84) | 6 Fri. . | 18 38 49 | 20 Mar. (80) | 2 Mon. . | 9964-3465 | 208-9087 | 261-4070 | 4470 |
| 25 Mar. (84) | 1 Sun. . | 0 50 58 | 9 Mar. (68) | 6 Fri. . | 9840-0694 | 56-1527 | 230-5838 | 4471 |
| 25 Mar. (84) | 2 Mon. . | 7 3 7 | 27 Feb. (58) | 4 Wed. | 54-4242 | 939-6884 | 202-4984 | 4472 |
| 25 Mar. (84) | 3 Tues. . | 13 15 16 | 18 Mar. (77) | 3 Tues. . | 89-1066 | 875-6819 | 253-8088 | 4473 |
| 24 Mar. (84) | 4 Wed. . | 19 27 24 | 7 Mar. (67) | 1 Sun. . | 363-4614 | 759-2176 | 225-7233 | 4474 |
| 25 Mar. (84) | 6 Fri. . | 1 39 33 | 24 Feb. (55) | 5 Thur. | 179-1842 | 606-4617 | 194-9062 | 4475 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ṣaḥ</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māshādi (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4476 | 1297 | 1432 | 781 | 549-50 | 1374-75 | 48 Ānanda | 54 Raudra | ... |
| 4477 | 1298 | 1433 | 782 | 550-51 | 1375-76 | 49 Rākshasa | 55 Durmati | 6 Bhādrapada |
| 4478 | 1299 | 1434 | 783 | 551-52 | *1376-77 | 50 Anala | 56 Dundubhi | ... |
| 4479 | 1300 | 1435 | 784 | 552-53 | 1377-78 | 51 Piṅgala | 57 Rudhīrōdgārī | ... |
| 4480 | 1301 | 1436 | 785 | 553-54 | 1378-79 | 52 Kālayukta | 58 Raktāksha | 4 Āshāḍha |
| 4481 | 1302 | 1437 | 786 | 554-55 | 1379-80 | 53 Siddhārthī | 59 Krōdhana | ... |
| 4482 | 1303 | 1438 | 787 | 555-56 | *1380-81 | 54 Raudra | 60 Kshaya | ... |
| 4483 | 1304 | 1439 | 788 | 556-57 | 1381-82 | 55 Durmati | 1 Prabhava | 2 Vaiśākha |
| 4484 | 1305 | 1440 | 789 | 557-58 | 1382-83 | 56 Dundubhi | 2 Vibhava | ... |
| 4485 | 1306 | 1441 | 790 | 558-59 | 1383-84 | 57 Rudhīrōdgārī | 3 Śukla | 6 Bhādrapada |
| 4486 | 1307 | 1442 | 791 | 559-60 | *1384-85 | 58 Raktāksha | 4 Pramōda | ... |
| 4487 | 1308 | 1443 | 792 | 560-61 | 1385-86 | 59 Krōdhana | 5 Prajāpati | ... |
| 4488 | 1309 | 1444 | 793 | 561-62 | 1386-87 | 60 Kshaya | 6 Āngiras | 4 Āshāḍha |
| 4489 | 1310 | 1445 | 794 | 562-63 | 1387-88 | 1 Prabhava | 7 Śrīmukha | ... |
| 4490 | 1311 | 1446 | 795 | 563-64 | *1388-89 | 2 Vibhava | 8 Bhāva | ... |
| 4491 | 1312 | 1447 | 796 | 564-65 | 1389-90 | 3 Śukla | 9 Yuvan | 3 Jyēṣṭha |
| 4492 | 1313 | 1448 | 797 | 565-66 | 1390-91 | 4 Pramōda | 10 Dhātṛī | ... |
| 4493 | 1314 | 1449 | 798 | 566-67 | 1391-92 | 5 Prajāpati | 11 Īśvara | 7 Āśvina |
| 4494 | 1315 | 1450 | 799 | 567-68 | *1392-93 | 6 Āngiras | 12 Bahudhānya | ... |
| 4495 | 1316 | 1451 | 800 | 568-69 | 1393-94 | 7 Śrīmukha | 13 Pramāsthī | ... |
| 4496 | 1317 | 1452 | 801 | 569-70 | 1394-95 | 8 Bhāva | 14 Vīkrama | 5 Śrāvapa |
| 4497 | 1318 | 1453 | 802 | 570-71 | 1395-96 | 9 Yuvan | 15 Vṛisha | ... |
| 4498 | 1319 | 1454 | 803 | 571-72 | *1396-97 | 10 Dhātṛī | 16 Chātrabhānu | ... |
| 4499 | 1320 | 1455 | 804 | 572-73 | 1397-98 | 11 Īśvara | 17 Subhānu | 4 Āshāḍha |
| 4500 | 1321 | 1456 | 805 | 573-74 | 1398-99 | 12 Bahudhānya | 18 Tāraka | ... |

† The moment of new moon was 15 hours 26 minutes before mean sunrise on 25th March, which was sunrise. The case is peculiar, since in general all days

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- samkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | | |
| | | H. M. S. | | | | | | 1 | |
| 25 Mar. (84) | 0 Sat. | 7 51 42 | 15 Mar. (74) | 4 Wed. | 215-8667 | 542-4551 | 246-2106 | 4476 | |
| 26 Mar. (84) | 1 Sun. | 14 3 51 | 4 Mar. (63) | 1 Sun. | 89-6894 | 139-6994 | 215-3874 | 4477 | |
| 24 Mar. (84) | 2 Mon. | 20 16 0 | 21 Mar. (81) | 6 Fri. | 9785-6399 | 288-4010 | 263-9600 | 4478 | |
| 25 Mar. (84) | 4 Wed. | 2 28 9 | 11 Mar. (70) | 4 Wed. | 9999-9947 | 172-9367 | 235-8746 | 4479 | |
| 25 Mar. (84) | 5 Thur. | 8 40 17 | 28 Feb. (59) | 1 Sun. | 9875-7176 | 20-1808 | 205-0514 | 4480 | |
| 25 Mar. (84) | 6 Fri. | 14 52 26 | 19 Mar. (78) | 0 Sat. | 9910-3999 | 956-1742 | 56-3618 | 4481 | |
| 24 Mar. (84) | 0 Sat. | 21 4 35 | 8 Mar. (68) | 5 Thur. | 124-7548 | 839-7100 | 228-2763 | 4482 | |
| 25 Mar. (84) | 2 Mon. | 3 16 44 | 25 Feb. (56) | 2 Mon. | 0-4776 | 686-9539 | 15-4532 | 4483 | |
| 25 Mar. (84) | 3 Tues. | 9 28 53 | 16 Mar. (75) | 1 Sun. | 35-1599 | 622-9434 | 248-7636 | 4484 | |
| 25 Mar. (84) | 4 Wed. | 15 41 2 | 5 Mar. (64) | 5 Thur. | 9910-8828 | 470-1915 | 217-9404 | 4485 | |
| 24 Mar. (84) | 5 Thur. | 21 53 10 | 23 Mar. (83) | 4 Wed. | 9945-5651 | 406-1850 | 269-2507 | 4486 | |
| 25 Mar. (84) | 0 Sat. | 4 5 19 | 12 Mar. (71) | 1 Sun. | 9821-2881 | 253-4290 | 238-4276 | 4487 | |
| 25 Mar. (84) | 1 Sun. | 10 17 28 | 2 Mar. (61) | 6 Fri. | 35-6429 | 136-9647 | 210-3423 | 4488 | |
| 25 Mar. (84) | 2 Mon. | 16 29 37 | 21 Mar. (80) | 5 Thur. | 70-3253 | 72-9581 | 261-6626 | 4489 | |
| 24 Mar. (84) | 3 Tues. | 22 41 46 | 9 Mar. (69) | 2 Mon. | 9946-0482 | 920-2004 | 230-8293 | 4490 | |
| 25 Mar. (84) | 5 Thur. | 4 53 55 | 27 Feb. (58) | 0 Sat. | 160-4030 | 803-7379 | 202-7439 | 4491 | |
| 25 Mar. (84) | 6 Fri. | 11 6 4 | 18 Mar. (77) | 6 Fri. | 195-0853 | 739-7314 | 514-0544 | 4492 | |
| 25 Mar. (84) | 0 Sat. | 17 18 12 | 7 Mar. (66) | 5 Tues. | 70-8082 | 586-9755 | 223-2311 | 4493 | |
| 24 Mar. (84) | 1 Sun. | 23 30 21 | 25 Mar. (85)† | 2 Mon. | 105-4906 | 522-9690 | 274-6415 | 4494 | |
| 25 Mar. (84) | 3 Tues. | 5 42 30 | 14 Mar. (73) | 6 Fri. | 9981-2134 | 370-2130 | 243-7183 | 4495 | |
| 25 Mar. (84) | 4 Wed. | 11 54 39 | 3 Mar. (62) | 3 Tues. | 9856-9362 | 217-4570 | 212-8962 | 4496 | |
| 25 Mar. (84) | 5 Thur. | 18 6 48 | 22 Mar. (81) | 2 Mon. | 9891-6187 | 153-4506 | 264-2056 | 4497 | |
| 25 Mar. (85) | 0 Sat. | 0 18 57 | 11 Mar. (71) | 0 Sat. | 105-9734 | 36-9862 | 236-1201 | 4498 | |
| 25 Mar. (84) | 1 Sun. | 6 31 5 | 28 Feb. (59) | 4 Wed. | 9981-6963 | 884-2303 | 205-2969 | 4499 | |
| 25 Mar. (84) | 2 Mon. | 12 43 14 | 19 Mar. (78) | 3 Tues. | 16-3787 | 820-2228 | 256-6074 | 4500 | |

† herefore, the day "Chaitra śukla 1." The moment of true Mēsha-sankrānti was 30 minutes before that in column 19 are earlier than those in column 13.

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (kṣa.) lunar months. |
|------------------|--------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śa ka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4501 | 1322 | 1457 | 806 | 574.75 | 1399.00 | 13 Pramāthin . | 19 Pārthiva . | ... |
| 4502 | 1323 | 1458 | 807 | 575.76 | *1400.01 | 14 Vikrama . | 20 Vyaya . | 2 Vaiśākha . |
| 4503 | 1324 | 1459 | 808 | 576.77 | 1401.02 | 15 Vṛjsha . | 21 Sarvajit . | ... |
| 4504 | 1325 | 1460 | 809 | 577.78 | 1402.03 | 16 Chitrabhānu . | 22 Sarvadhārin . | 6 Bhādrapada . |
| 4505 | 1326 | 1461 | 810 | 578.79 | 1403.04 | 17 Subhānu . | 23 Virōdhin . | ... |
| 4506 | 1327 | 1462 | 811 | 579.80 | *1404.05 | 18 Tārana . | 24 Vikṛita . | ... |
| 4507 | 1328 | 1463 | 812 | 580.81 | 1405.06 | 19 Pārthiva . | 25 Khara . | 4 Āshāḍha . |
| 4508 | 1329 | 1464 | 813 | 581.82 | 1406.07 | 20 Vyaya . | 26 Nandana . | ... |
| 4509 | 1330 | 1465 | 814 | 582.83 | 1407.08 | 21 Sarvajit . | 27 Vijaya . | ... |
| 4510 | 1331 | 1466 | 815 | 583.84 | *1408.09 | 22 Sarvadhārin . | 28 Jaya . | 3 Jyēṣṭha . |
| 4511 | 1332 | 1467 | 816 | 584.85 | 1409.10 | 23 Virōdhin . | 29 Manmatha . | ... |
| 4512 | 1333 | 1468 | 817 | 585.86 | 1410.11 | 24 Vikṛita . | 30 Darmukha . | 8 Kārttika† . |
| 4513 | 1334 | 1469 | 818 | 586.87 | 1411.12 | 25 Khara . | 31 Hēmalamba . | ... |
| 4514 | 1335 | 1470 | 819 | 587.88 | *1412.13 | 26 Nandana . | 32 Vilamba . | ... |
| 4515 | 1336 | 1471 | 820 | 588.89 | 1413.14 | 27 Vijaya . | 33 Vikārin . | 5 Śrāvapa . |
| 4516 | 1337 | 1472 | 821 | 589.90 | 1414.15 | 28 Jaya . | 34 Śārvarin . | ... |
| 4517 | 1338 | 1473 | 822 | 590.91 | 1415.16 | 29 Manmatha . | 35 Plava† . | ... |
| 4518 | 1339 | 1474 | 823 | 591.02 | *1416.17 | 30 Darmukha . | 37 Śōbhana . | 4 Āshāḍha . |
| 4519 | 1340 | 1475 | 824 | 592.03 | 1417.18 | 31 Hēmalamba . | 38 Krōdhin . | ... |
| 4520 | 1341 | 1476 | 825 | 593.04 | 1418.19 | 32 Vilamba . | 39 Viśāvasu . | ... |
| 4521 | 1342 | 1477 | 826 | 594.05 | 1419.20 | 33 Vikārin . | 40 Parābhava . | 2 Vaiśākha . |
| 4522 | 1343 | 1478 | 827 | 595.06 | *1420.21 | 34 Śārvarin . | 41 Plavaṅga . | ... |
| 4523 | 1344 | 1479 | 828 | 596.07 | 1421.22 | 35 Plava . | 42 Kīlaka . | 6 Bhādrapada . |
| 4524 | 1345 | 1480 | 829 | 597.08 | 1422.23 | 36 Subhakṛit . | 43 Saumya . | ... |
| 4525 | 1346 | 1481 | 830 | 598.09 | 1423.24 | 37 Śōbhana . | 44 Sādhārapa . | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|------------------------|---------------|--------------------------------------|--|---------------|-----------|----------|-----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN ^h SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week- day. | Time of true Māsha- sāṁkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H M. S. | | | | | | |
| 25 Mar. (84) | 3 Tues. | 18 55 23 | 9 Mar. (68) | 1 Sun. | 230-7335 | 703-7594 | 228-4414 | 4501 |
| 25 Mar. (85) | 5 Thur. | 1 7 32 | 26 Feb. (57) | 5 Thur. | 106-4563 | 551-1034 | 197-6283 | 4502 |
| 25 Mar. (84) | 6 Fri. | 7 19 41 | 16 Mar. (75) | 4 Wed. | 141-1387 | 186-9968 | 248-9286 | 4503 |
| 25 Mar. (84) | 0 Sat. | 13 31 50 | 5 Mar. (64) | 1 Sun. | 16-8615 | 334-2410 | 218-1054 | 4504 |
| 25 Mar. (84) | 1 Sun. | 19 43 58 | 24 Mar. (83) | 0 Sat. | 51-5439 | 270-2344 | 269-4158 | 4505 |
| 25 Mar. (85) | 3 Tues. | 1 56 7 | 12 Mar. (72) | 4 Wed. | 9927-2668 | 117-4784 | 238-5927 | 4506 |
| 25 Mar. (84) | 4 Wed. | 8 8 16 | 2 Mar. (61) | 2 Mon. | 141-6216 | 1-0142 | 210-5072 | 4507 |
| 25 Mar. (84) | 5 Thur. | 14 20 25 | 21 Mar. (80) | 1 Sun. | 176-3040 | 937-0076 | 261-8176 | 4508 |
| 25 Mar. (84) | 6 Fri. | 20 32 34 | 10 Mar. (69) | 5 Thur. | 52-0269 | 784-2517 | 230-9944 | 4509 |
| 25 Mar. (85) | 1 Sun. | 2 44 43 | 28 Feb. (59) | 3 Tues. | 266-3816 | 667-7673 | 202-9090 | 4510 |
| 25 Mar. (84) | 2 Mon. | 8 56 51 | 17 Mar. (76) | 1 Sun. | 9962-4320 | 567-4892 | 251-4816 | 4511 |
| 25 Mar. (84) | 3 Tues. | 15 9 0 | 6 Mar. (63) | 3 Thur. | 9838-1549 | 414-7332 | 220-6584 | 4512 |
| 25 Mar. (84) | 4 Wed. | 21 21 9 | 25 Mar. (84) | 4 Wed. | 9872-8373 | 350-7267 | 271-9668 | 4513 |
| 25 Mar. (85) | 6 Fri. | 3 33 18 | 13 Mar. (73) | 1 Sun. | 9748-5601 | 197-9690 | 241-1457 | 4514 |
| 25 Mar. (84) | 0 Sat. | 9 45 27 | 3 Mar. (62) | 6 Fri. | 9962-9150 | 81-5065 | 215-0602 | 4515 |
| 25 Mar. (84) | 1 Sun. | 15 57 36 | 22 Mar. (81) | 5 Thur. | 9907-5980 | 17-5000 | 264-3706 | 4516 |
| 25 Mar. (84) | 2 Mon. | 22 9 45 | 12 Mar. (71) | 3 Tues. | 211-9521 | 901-0446 | 236-2862 | 4517 |
| 25 Mar. (85) | 4 Wed. | 4 21 53 | 29 Feb. (60) | 0 Sat. | 87-6750 | 748-2797 | 205-4630 | 4518 |
| 25 Mar. (84) | 5 Thur. | 10 34 2 | 19 Mar. (78) | 6 Fri. | 122-3574 | 684-2731 | 256-7734 | 4519 |
| 25 Mar. (84) | 6 Fri. | 16 46 11 | 8 Mar. (67) | 3 Tues. | 9998-0803 | 531-5172 | 255-9491 | 4520 |
| 25 Mar. (84) | 0 Sat. | 22 58 20 | 25 Feb. (56) | 0 Sat. | 9873-8030 | 378-7613 | 195-1260 | 4521 |
| 25 Mar. (85) | 2 Mon. | 5 10 29 | 15 Mar. (75) | 6 Fri. | 9908-4855 | 314-7548 | 246-4364 | 4522 |
| 25 Mar. (84) | 3 Tues. | 11 22 38 | 4 Mar. (63) | 3 Tues. | 9784-2083 | 161-0988 | 215-6132 | 4523 |
| 25 Mar. (84) | 4 Wed. | 17 34 46 | 23 Mar. (82) | 2 Mon. | 9818-8907 | 97-9923 | 266-9235 | 4524 |
| 25 Mar. (84) | 5 Thur. | 23 46 55 | 13 Mar. (72) | 0 Sat. | 33-2455 | 981-6279 | 2 38-8382 | 4525 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSBARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4526 | 1347 | 1482 | 831 | 599-600 | *1424-25 | 38 Krōdhin | 45 Virōdhakṛit | 4 Āshāḍha |
| 4527 | 1348 | 1483 | 832 | 600-01 | 1425-26 | 39 Viśvāvasu | 46 Paridhāvin | ... |
| 4528 | 1349 | 1484 | 833 | 601-02 | 1426-27 | 40 Parābhava | 47 Pramōdin | ... |
| 4529 | 1350 | 1485 | 834 | 602-03 | 1427-28 | 41 Plavaṅga | 48 Ānanda | 3 Jyēṣṭha |
| 4530 | 1351 | 1486 | 835 | 603-04 | *1428-29 | 42 Kṛaka | 49 Rākṣasa | ... |
| 4531 | 1352 | 1487 | 836 | 604-05 | 1429-30 | 43 Saumya | 50 Anala | 8 Kārttika† |
| 4532 | 1353 | 1488 | 837 | 605-06 | 1430-31 | 44 Sādhārṇa | 51 Piṅgala | ... |
| 4533 | 1354 | 1489 | 838 | 606-07 | 1431-32 | 45 Virōdhakṛit | 52 Kālayukta | ... |
| 4534 | 1355 | 1490 | 839 | 607-08 | *1432-33 | 46 Paridhāvin | 53 Siddhārthin | 5 Śrāvana |
| 4535 | 1356 | 1491 | 840 | 608-09 | 1433-34 | 47 Pramōdin | 54 Raudra | ... |
| 4536 | 1357 | 1492 | 841 | 609-10 | 1434-35 | 48 Ānanda | 55 Durmati | ... |
| 4537 | 1358 | 1493 | 842 | 610-11 | 1435-36 | 49 Rākṣasa | 56 Dundubhi | 4 Āshāḍha |
| 4538 | 1359 | 1494 | 843 | 611-12 | *1436-37 | 50 Anala | 57 Rudhīrōdgārin | ... |
| 4539 | 1360 | 1495 | 844 | 612-13 | 1437-38 | 51 Piṅgala | 58 Raktākṣa | ... |
| 4540 | 1361 | 1496 | 845 | 613-14 | 1438-39 | 52 Kālayukta | 59 Krōdhana | 1 Chaitra |
| 4541 | 1362 | 1497 | 846 | 614-15 | 1439-40 | 53 Siddhārthin | 60 Kabha | ... |
| 4542 | 1363 | 1498 | 847 | 615-16 | *1440-41 | 54 Raudra | 1 Prabhava | 6 Bhādrapada |
| 4543 | 1364 | 1499 | 848 | 616-17 | 1441-42 | 55 Durmati | 2 Vibhava | ... |
| 4544 | 1365 | 1500 | 849 | 617-18 | 1442-43 | 56 Dundubhi | 3 Śukla | ... |
| 4545 | 1366 | 1501 | 850 | 618-19 | 1443-44 | 57 Rudhīrōdgārin | 4 Pramōda | 4 Āshāḍha |
| 4546 | 1367 | 1502 | 851 | 619-20 | *1444-45 | 58 Raktākṣa | 5 Prajāpati | ... |
| 4547 | 1368 | 1503 | 852 | 620-21 | 1445-46 | 59 Krōdhana | 6 Aṅgira | ... |
| 4548 | 1369 | 1504 | 853 | 621-22 | 1446-47 | 60 Kabha | 7 Śrīmukha | 3 Jyēṣṭha |
| 4549 | 1370 | 1505 | 854 | 622-23 | 1447-48 | 1 Prabhava | 8 Bhāva | ... |
| 4550 | 1371 | 1506 | 855 | 623-24 | *1448-49 | 2 Vibhava | 9 Yuvan | 7 Āvina |

Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Māsha- samkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 25 Mar. (85) | 0 Sat. . | 5 59 4 | 2 Mar. (62) | 5 Thur | 247-6004 | 865-0637 | 210-7528 | 4526 | |
| 25 Mar. (84) | 1 Sun. . | 12 11 13 | 21 Mar. (80) | 4 Wed. | 282-2828 | 801-0571 | 262-0632 | 4527 | |
| 25 Mar. (84) | 2 Mon. . | 18 23 22 | 10 Mar. (69) | 1 Sun. . | 158-0056 | 648-3012 | 231-2399 | 4528 | |
| 26 Mar. (85) | 4 Wed. | 0 35 31 | 27 Feb. (58) | 5 Thur. | 33-7284 | 495-5453 | 200-4167 | 4529 | |
| 25 Mar. (85) | 5 Thur. | 6 47 39 | 17 Mar. (77) | 4 Wed. . | 68-4108 | 431-5387 | 251-7272 | 4530 | |
| 25 Mar. (84) | 6 Fri. . | 12 59 48 | 6 Mar. (65) | 1 Sun. . | 9944-1336 | 278-7828 | 220-9040 | 4531 | |
| 25 Mar. (84) | 0 Sat. . | 19 11 57 | 25 Mar. (84) | 0 Sat. . | 9978-8160 | 214-7762 | 272-2143 | 4532 | |
| 26 Mar. (85) | 2 Mon. . | 1 24 6 | 14 Mar. (73) | 4 Wed. . | 9854-5389 | 62-0203 | 241-3912 | 4533 | |
| 25 Mar. (85) | 3 Tues. . | 7 36 15 | 3 Mar. (63) | 2 Mon. . | 68-8937 | 945-4560 | 213-3058 | 4534 | |
| 25 Mar. (84) | 4 Wed. . | 13 48 24 | 22 Mar. (81) | 1 Sun. . | 103-5761 | 881-5495 | 264-6162 | 4535 | |
| 25 Mar. (84) | 5 Thur. | 20 0 32 | 12 Mar. (71) | 6 Fri. . | 317-9309 | 765-0852 | 236-5307 | 4536 | |
| 26 Mar. (85) | 0 Sat. . | 2 12 41 | 1 Mar. (60) | 3 Tues. . | 193-6538 | 612-3292 | 205-7075 | 4537 | |
| 25 Mar. (85) | 1 Sun. . | 8 24 50 | 19 Mar. (79) | 2 Mon. . | 227-3262 | 548-3227 | 257-0180 | 4538 | |
| 25 Mar. (84) | 2 Mon. . | 14 36 59 | 7 Mar. (66) | 5 Thur. | 9765-4270 | 359-2751 | 223-4569 | 4539 | |
| 25 Mar. (84) | 3 Tues. . | 20 49 8 | 25 Feb. (56) | 3 Tues. . | 9979-7818 | 242-8108 | 195-3716 | 4540 | |
| 26 Mar. (85) | 5 Thur. | 3 1 17 | 16 Mar. (75) | 2 Mon. . | 14-4643 | 178-8043 | 246-6819 | 4541 | |
| 25 Mar. (85) | 6 Fri. . | 9 13 26 | 4 Mar. (64) | 6 Fri. . | 9890-1870 | 26-0483 | 215-8588 | 4542 | |
| 25 Mar. (84) | 0 Sat. . | 15 25 34 | 23 Mar. (82) | 5 Thur. | 9924-8695 | 962-0418 | 267-1691 | 4543 | |
| 25 Mar. (84) | 1 Sun. . | 21 37 43 | 13 Mar. (72) | 3 Tues. . | 139-2243 | 845-5774 | 239-0838 | 4544 | |
| 26 Mar. (85) | 3 Tues. . | 3 49 52 | 2 Mar. (61) | 0 Sat. . | 14-9472 | 692-8215 | 208-2605 | 4545 | |
| 25 Mar. (85) | 4 Wed. . | 10 2 1 | 20 Mar. (80) | 6 Fri. . | 49-6295 | 628-8050 | 259-5709 | 4546 | |
| 25 Mar. (84) | 5 Thur. | 16 14 10 | 9 Mar. (68) | 3 Tues. . | 9925-3524 | 476-0591 | 228-7091 | 4547 | |
| 25 Mar. (84) | 6 Fri. . | 22 26 19 | 26 Feb. (57) | 0 Sat. . | 9801-0752 | 323-3031 | 197-9246 | 4548 | |
| 26 Mar. (85) | 1 Sun. . | 4 38 27 | 17 Mar. (76) | 6 Fri. . | 9835-7575 | 259-3361 | 249-2359 | 4549 | |
| 25 Mar. (85) | 2 Mon. . | 10 50 36 | 6 Mar. (66) | 4 Wed. . | 50-1124 | 142-8233 | 221-1495 | 4550 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lesh</i> .) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4551 | 1372 | 1507 | 856 | 624-25 | 1449-50 | 3 Śukla . . | 10 Dhātṛi . . | ... |
| 4552 | 1373 | 1508 | 857 | 625-26 | 1450-51 | 4 Pramōda . . | 11 Īsvara . . | ... |
| 4553 | 1374 | 1509 | 858 | 626-27 | 1451-52 | 5 Prajāpati . . | 12 Bahudhānya . . | 5 Śrāvaṇa . . |
| 4554 | 1375 | 1510 | 859 | 627-28 | *1452-53 | 6 Aṅgiras . . | 13 Pramāthin . . | ... |
| 4555 | 1376 | 1511 | 860 | 628-29 | 1453-54 | 7 Śṛimukha . . | 14 Vikrama . . | ... |
| 4556 | 1377 | 1512 | 861 | 629-30 | 1454-55 | 8 Bhāva . . | 15 Vṛṣha . . | 4 Āshāḍha . . |
| 4557 | 1378 | 1513 | 862 | 630-31 | 1455-56 | 9 Yuvan . . | 16 Chitrabhānu . . | ... |
| 4558 | 1379 | 1514 | 863 | 631-32 | *1456-57 | 10 Dhātṛi . . | 17 Subhānu . . | ... |
| 4559 | 1380 | 1515 | 864 | 632-33 | 1457-58 | 11 Īsvara . . | 18 Tāraṇa . . | 1 Chaitra . . |
| 4560 | 1381 | 1516 | 865 | 633-34 | 1458-59 | 12 Bahudhānya . . | 19 Pārthiva . . | ... |
| 4561 | 1382 | 1517 | 866 | 634-35 | 1459-60 | 13 Pramāthin . . | 20 Vyaya . . | 5 Śrāvaṇa . . |
| 4562 | 1383 | 1518 | 867 | 635-36 | *1460-61 | 14 Vikrama . . | 21 Sarvajit . . | ... |
| 4563 | 1384 | 1519 | 868 | 636-37 | 1461-62 | 15 Vṛṣha . . | 22 Sarvadhārin . . | ... |
| 4564 | 1385 | 1520 | 869 | 637-38 | 1462-63 | 16 Chitrabhānu . . | 23 Virōdhin . . | 4 Āshāḍha . . |
| 4565 | 1386 | 1521 | 870 | 638-39 | 1463-64 | 17 Subhānu . . | 24 Vikṛita . . | ... |
| 4566 | 1387 | 1522 | 871 | 639-40 | *1464-65 | 18 Tāraṇa . . | 25 Khara . . | ... |
| 4567 | 1388 | 1523 | 872 | 640-41 | 1465-66 | 19 Pārthiva . . | 26 Nandana . . | 2 Vaiśākha . . |
| 4568 | 1389 | 1524 | 873 | 641-42 | 1466-67 | 20 Vyaya . . | 27 Vijaya . . | ... |
| 4569 | 1390 | 1525 | 874 | 642-43 | 1467-68 | 21 Sarvajit . . | 28 Jaya . . | 6 Bhādrapada . . |
| 4570 | 1391 | 1526 | 875 | 643-44 | *1468-69 | 22 Sarvadhārin . . | 29 Manmatha . . | ... |
| 4571 | 1392 | 1527 | 876 | 644-45 | 1469-70 | 23 Virōdhin . . | 30 Durmukha . . | ... |
| 4572 | 1393 | 1528 | 877 | 645-46 | 1470-71 | 24 Vikṛita . . | 31 Hēmalamba . . | 5 Śrāvaṇa . . |
| 4573 | 1394 | 1529 | 878 | 646-47 | 1471-72 | 25 Khara . . | 32 Vilamba . . | ... |
| 4574 | 1395 | 1530 | 879 | 647-48 | *1472-73 | 26 Nandana . . | 33 Vikārin . . | ... |
| 4575 | 1396 | 1531 | 880 | 648-49 | 1473-74 | 27 Vijaya . . | 34 Śārvarin . . | 3 Jyēṣṭha . . |

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| COMMENCEMENT OF THE | | | | | | | | |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankranti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 25 Mar. (84) | 3 Tues. | 17 2 43 | 25 Mar. (84) | 3 Tues. | 84-7048 | 78-8257 | 272-4599 | 4551 |
| 25 Mar. (84) | 4 Wed. | 23 14 54 | 14 Mar. (73) | 0 Sat. | 9990-5176 | 926-0698 | 241-6368 | 4552 |
| 26 Mar. (85) | 6 Fri. | 5 27 3 | 4 Mar. (63) | 5 Thur. | 174-8724 | 809-5415 | 213-5513 | 4553 |
| 25 Mar. (85) | 0 Sat. | 11 39 12 | 22 Mar. (82) | 4 Wed. | 209-5549 | 745-5990 | 264-8617 | 4554 |
| 25 Mar. (84) | 1 Sun. | 17 51 20 | 11 Mar. (70) | 1 Sun. | 85-2777 | 592-8450 | 234-0385 | 4555 |
| 26 Mar. (85) | 3 Tues. | 0 3 29 | 28 Feb. (59) | 5 Thur. | 9961-0005 | 449-0871 | 203-2153 | 4556 |
| 26 Mar. (85) | 4 Wed. | 6 15 38 | 19 Mar. (78) | 4 Wed. | 9995-6829 | 376-0805 | 254-5257 | 4557 |
| 25 Mar. (85) | 5 Thur. | 12 27 47 | 7 Mar. (67) | 1 Sun. | 9871-4058 | 223-3246 | 223-7024 | 4558 |
| 25 Mar. (84) | 6 Fri. | 18 39 56 | 25 Feb. (56) | 6 Fri. | 85-7606 | 106-8603 | 195-6171 | 5559 |
| 26 Mar. (85) | 1 Sun. | 0 52 6 | 16 Mar. (75) | 5 Thur. | 120-4430 | 42-8538 | 246-9275 | 4560 |
| 26 Mar. (85) | 2 Mon. | 7 4 13 | 5 Mar. (64) | 2 Mon. | 9996-1658 | 890-0078 | 216-1053 | 4561 |
| 25 Mar. (85) | 3 Tues. | 13 16 22 | 23 Mar. (83) | 1 Sun. | 30-8485 | 826-0913 | 267-4146 | 4562 |
| 25 Mar. (84) | 4 Wed. | 19 28 31 | 13 Mar. (72) | 6 Fri. | 245-2030 | 709-6270 | 239-3293 | 4563 |
| 26 Mar. (85) | 6 Fri. | 1 40 40 | 2 Mar. (61) | 3 Tues. | 120-9259 | 556-8710 | 205-5061 | 4564 |
| 26 Mar. (85) | 0 Sat. | 7 52 49 | 21 Mar. (80) | 2 Mon. | 155-6083 | 492-8645 | 259-8165 | 4565 |
| 25 Mar. (85) | 1 Sun. | 14 4 58 | 9 Mar. (69) | 6 Fri. | 31-3312 | 340-1086 | 328-9942 | 4566 |
| 25 Mar. (84) | 2 Mon. | 20 17 7 | 26 Feb. (57) | 3 Tues. | 9907-0539 | 187-3526 | 158-1701 | 4567 |
| 26 Mar. (85) | 4 Wed. | 2 29 15 | 17 Mar. (76) | 2 Mon. | 9941-7363 | 123-3461 | 249-4805 | 4568 |
| 26 Mar. (85) | 5 Thur. | 8 41 24 | 7 Mar. (66) | 0 Sat. | 156-0912 | 6-8818 | 221-3950 | 4569 |
| 25 Mar. (85) | 6 Fri. | 14 53 33 | 25 Mar. (85) | 6 Fri. | 190-7735 | 942-8753 | 272-7034 | 4570 |
| 25 Mar. (84) | 0 Sat. | 21 5 42 | 14 Mar. (73) | 3 Tues. | 66-4964 | 790-1193 | 241-8823 | 4571 |
| 26 Mar. (85) | 2 Mon. | 3 17 51 | 4 Mar. (63) | 1 Sun. | 280-8512 | 673-6550 | 213-7969 | 4572 |
| 26 Mar. (85) | 3 Tues. | 9 30 0 | 22 Mar. (81) | 6 Fri. | 9976-9017 | 573-3568 | 262-3695 | 4573 |
| 25 Mar. (85) | 4 Wed. | 15 42 8 | 10 Mar. (70) | 3 Tues. | 9532-6245 | 420-6009 | 231-5662 | 4574 |
| 25 Mar. (84) | 5 Thur. | 21 54 17 | 27 Feb. (58) | 0 Sat. | 4725-3473 | 267-8450 | 200-7230 | 4575 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (ksh.) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikrama- | Mēshadi (solar) year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4576 | 1397 | 1532 | 881 | 649.50 | 1474-75 | 28 Jaya . . | 35 Plava . . | ... |
| 4577 | 1398 | 1533 | 882 | 650.51 | 1475-76 | 29 Manmatha . . | 36 Subhakṛit . . | ... |
| 4578 | 1399 | 1534 | 883 | 651.52 | *1476-77 | 30 Durmukha . . | 37 Sōbhana . . | 1 Chaitra . . |
| 4579 | 1400 | 1535 | 884 | 652.53 | 1477-78 | 31 Hōmalamba . . | 38 Krōdhin . . | ... |
| *4580 | 1401 | 1536 | 885 | 653.54 | 1478-79 | 32 Vilamba . . | 39 Viśvāvasu . . | 5 Śrāvaya . . |
| 4581 | 1402 | 1537 | 886 | 654.55 | 1479-80 | 33 Vikācin . . | 40 Parābhava . . | ... |
| 4582 | 1403 | 1538 | 887 | 655.56 | *1480-81 | 34 Śārvarin . . | 41 Plavaṅga . . | ... |
| 4583 | 1404 | 1539 | 888 | 656.57 | 1481-82 | 35 Plava . . | 42 Kilaka . . | 4 Āshāḍha . . |
| 4584 | 1405 | 1540 | 889 | 657.58 | 1482-83 | 36 Subhakṛit . . | 43 Saumya . . | ... |
| 4585 | 1406 | 1541 | 890 | 658.59 | 1483-84 | 37 Sōbhana . . | 44 Sādhārana . . | ... |
| 4586 | 1407 | 1542 | 891 | 659.60 | *1484-85 | 38 Krōdhin . . | 45 Virōdhakṛit . . | 2 Vāishākha . . |
| 4587 | 1408 | 1543 | 892 | 660.61 | 1485-86 | 39 Viśvāvasu . . | 46 Parābhavin . . | ... |
| 4588 | 1409 | 1544 | 893 | 661.62 | 1486-87 | 40 Parābhava . . | 47 Pramādin . . | 6 Bhādrapada . . |
| 4589 | 1410 | 1545 | 894 | 662.63 | 1487-88 | 41 Plavaṅga . . | 48 Ānanda . . | ... |
| 4590 | 1411 | 1546 | 895 | 663.64 | *1488-89 | 42 Kilaka . . | 49 Rākshasa . . | ... |
| 4591 | 1412 | 1547 | 896 | 664.65 | 1489-90 | 43 Saumya . . | 50 Anala . . | 5 Śrāvaya . . |
| 4592 | 1413 | 1548 | 897 | 665.66 | 1490-91 | 44 Sādhārana . . | 51 Piṅgala . . | ... |
| 4593 | 1414 | 1549 | 898 | 666.67 | 1491-92 | 45 Virōdhakṛit . . | 52 Kāleyukta . . | ... |
| 4594 | 1415 | 1550 | 899 | 667.68 | *1492-93 | 46 Parābhavin . . | 53 Siddhārthin . . | 3 Jyēshṭha . . |
| 4595 | 1416 | 1551 | 900 | 668.69 | 1493-94 | 47 Pramādin . . | 54 Raudra . . | ... |
| 4596 | 1417 | 1552 | 901 | 669.70 | 1494-95 | 48 Ānanda . . | 55 Durmati . . | ... |
| 4597 | 1418 | 1553 | 902 | 670.71 | 1495-96 | 49 Rākshasa . . | 56 Dundubhi . . | 1 Chaitra . . |
| 4598 | 1419 | 1554 | 903 | 671.72 | *1496-97 | 50 Anala . . | 57 Rudhirōdgāra . . | ... |
| 4599 | 1420 | 1555 | 904 | 672.73 | 1497-98 | 51 Piṅgala . . | 58 Raktāksha . . | 5 Śrāvaya . . |
| 4600 | 1421 | 1556 | 905 | 673.74 | 1498-99 | 52 Kāleyukta . . | 59 Krōdhana . . | ... |

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| COMMENCEMENT OF THE | | | | | | | | | Kali. year. |
|------------------------|---------------|-------------------------------------|---|---------------|-----------|----------|----------|------|----------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Māha- sankranti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 26 Mar. (85) | 0 Sat. | 4 6 26 | 18 Mar. (77) | 6 Fri. | 9763-0297 | 293-8384 | 252-0335 | 4576 | |
| 26 Mar. (85) | 1 Sun. | 10 18 35 | 8 Mar. (67) | 4 Wed. | 9977-3845 | 87-3741 | 223-9480 | 4577 | |
| 25 Mar. (85) | 2 Mon. | 16 30 44 | 26 Feb. (57) | 2 Mon. | 191-7393 | 979-9068 | 195-8626 | 4578 | |
| 25 Mar. (84) | 3 Tues. | 22 42 53 | 16 Mar. (75) | 1 Sun. | 326-4218 | 906-9033 | 247-1730 | 4579 | |
| 26 Mar. (85) | 5 Thur. | 4 55 1 | 5 Mar. (64) | 5 Thur. | 192-1446 | 754-0474 | 216-3499 | 4580 | |
| 26 Mar. (85) | 6 Fri. | 11 7 10 | 24 Mar. (83) | 4 Wed. | 136-8270 | 009-1408 | 267-0002 | 4581 | |
| 25 Mar. (85) | 0 Sat. | 17 16 19 | 12 Mar. (72) | 1 Sun. | 12-5498 | 537-3849 | 236-8370 | 4582 | |
| 25 Mar. (84) | 1 Sun. | 23 31 28 | 1 Mar. (60) | 5 Thur. | 9888-2727 | 394-6289 | 206-6138 | 4583 | |
| 26 Mar. (85) | 3 Tues. | 5 43 37 | 20 Mar. (79) | 4 Wed. | 9922-9550 | 320-6184 | 257-3243 | 4584 | |
| 26 Mar. (85) | 4 Wed. | 11 55 46 | 9 Mar. (68) | 1 Sun. | 9798-6779 | 167-8664 | 226-5010 | 4585 | |
| 25 Mar. (85) | 5 Thur. | 18 7 54 | 27 Feb. (58) | 6 Fri. | 13-0326 | 51-4021 | 198-4156 | 4586 | |
| 26 Mar. (85) | 0 Sat. | 0 20 3 | 17 Mar. (76) | 5 Thur. | 47-7151 | 987-3956 | 249-7200 | 4587 | |
| 26 Mar. (85) | 1 Sun. | 6 32 12 | 7 Mar. (66) | 3 Tues. | 262-0699 | 870-9313 | 221-6416 | 4588 | |
| 26 Mar. (85) | 2 Mon. | 12 44 21 | 26 Mar. (85) | 2 Mon. | 296-7523 | 806-9247 | 272-9510 | 4589 | |
| 25 Mar. (85) | 3 Tues. | 18 56 30 | 14 Mar. (74) | 6 Fri. | 172-4752 | 654-1688 | 242-1278 | 4590 | |
| 26 Mar. (85) | 5 Thur. | 1 8 39 | 3 Mar. (62) | 3 Tues. | 48-1981 | 501-4129 | 211-3046 | 4591 | |
| 26 Mar. (85) | 6 Fri. | 7 20 48 | 22 Mar. (81) | 2 Mon. | 82-8804 | 437-4004 | 262-6151 | 4592 | |
| 26 Mar. (85) | 0 Sat. | 13 32 56 | 11 Mar. (70) | 6 Fri. | 9958-5833 | 284-6594 | 231-7918 | 4593 | |
| 25 Mar. (85) | 1 Sun. | 19 45 5 | 28 Feb. (59) | 3 Tues. | 9834-3261 | 131-8945 | 300-9685 | 4594 | |
| 26 Mar. (85) | 3 Tues. | 1 57 14 | 18 Mar. (77) | 2 Mon. | 9869-0094 | 67-8880 | 252-2790 | 4595 | |
| 26 Mar. (85) | 4 Wed. | 8 9 23 | 8 Mar. (67) | 0 Sat. | 83-3633 | 951-4236 | 224-1926 | 4596 | |
| 26 Mar. (85) | 5 Thur. | 14 21 32 | 26 Feb. (57) | 5 Thur. | 297-7181 | 834-9393 | 196-1082 | 4597 | |
| 25 Mar. (85) | 6 Fri. | 20 33 41 | 15 Mar. (75) | 3 Tues. | 9993-7685 | 734-6612 | 244-6807 | 4598 | |
| 26 Mar. (85) | 1 Sun. | 2 45 49 | 5 Mar. (64) | 1 Sun. | 208-1233 | 618-1969 | 216-5954 | 4599 | |
| 26 Mar. (85) | 2 Mon. | 8 57 58 | 23 Mar. (82) | 6 Fri. | 9904-1735 | 517-8977 | 265-1680 | 4600 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradi Vikrama. | Mēdhādi (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4601 | 1422 | 1557 | 906 | 674-75 | 1499-1500 | 53 Siddhārthin . | 60 Kshaya . | ... |
| 4602 | 1423 | 1558 | 907 | 675-76 | *1500-01 | 54 Raudra . | 1 Prabhava† . | 4 Āshāḍha . |
| 4603 | 1424 | 1559 | 908 | 676-77 | 1501-02 | 55 Darmati . | 3 Śukla . | ... |
| 4604 | 1425 | 1560 | 909 | 677-78 | 1502-03 | 56 Dundubhi . | 4 Pramōda . | ... |
| 4605 | 1426 | 1561 | 910 | 678-79 | 1503-04 | 57 Rudhirōdgārin . | 5 Prajāpati . | 2 Vaiśākha . |
| 4606 | 1427 | 1562 | 911 | 679-80 | *1504-05 | 58 Raktāksha . | 6 Aṅgiras . | ... |
| 4607 | 1428 | 1563 | 912 | 680-81 | 1505-06 | 59 Krōdhana . | 7 Śrīmukha . | 6 Bhādrapada . |
| 4608 | 1429 | 1564 | 913 | 681-82 | 1506-07 | 60 Kshaya . | 8 Bhāma . | ... |
| 4609 | 1430 | 1565 | 914 | 682-83 | 1507-08 | 1 Prabhava . | 9 Yavana . | ... |
| 4610 | 1431 | 1566 | 915 | 683-84 | *1508-09 | 2 Vihhava . | 10 Dhātṛi . | 5 Śrāvaṇa . |
| 4611 | 1432 | 1567 | 916 | 684-85 | 1509-10 | 3 Śukla . | 11 Jvara . | ... |
| 4612 | 1433 | 1568 | 917 | 685-86 | 1510-11 | 4 Pramōda . | 12 Bahudhānya . | ... |
| 4613 | 1434 | 1569 | 918 | 686-87 | 1511-12 | 5 Prajāpati . | 13 Pramāthin . | 3 Jyēṣṭha . |
| 4614 | 1435 | 1570 | 919 | 687-88 | *1512-13 | 6 Aṅgiras . | 14 Vikrama . | ... |
| 4615 | 1436 | 1571 | 920 | 688-89 | 1513-14 | 7 Śrīmukha . | 15 Vṛisha . | { 7 Āsvina 10 Pousha (<i>ksh.</i>) } |
| 4616 | 1437 | 1572 | 921 | 689-90 | 1514-15 | 8 Bhāva . | 16 Chitrabhānu . | |
| 4617 | 1438 | 1573 | 922 | 690-91 | 1515-16 | 9 Yavan . | 17 Subhānu . | ... |
| 4618 | 1439 | 1574 | 923 | 691-92 | *1516-17 | 10 Dhātṛi . | 18 Tāraka . | 5 Śrāvaṇa . |
| 4619 | 1440 | 1575 | 924 | 692-93 | 1517-18 | 11 Jvara . | 19 Pārthiva . | ... |
| 4620 | 1441 | 1576 | 925 | 693-94 | 1518-19 | 12 Bahudhānya . | 20 Vyaya . | ... |
| 4621 | 1442 | 1577 | 926 | 694-95 | 1519-20 | 13 Pramāthin . | 21 Sarvajit . | 4 Āshāḍha . |
| 4622 | 1443 | 578 | 927 | 695-96 | *1520-21 | 14 Vikrama . | 22 Sarvadhārin . | ... |
| 4623 | 1444 | 579 | 928 | 696-97 | 1521-22 | 15 Vṛisha . | 23 Virōchin . | ... |
| 4624 | 1445 | 1580 | 929 | 697-98 | 1522-23 | 16 Chitrabhānu . | 24 Vikṛita . | 2 Vaiśākha . |
| 4625 | 1446 | 1581 | 930 | 698-99 | 1523-24 | 17 Subhānu . | 25 Khara . | ... |

† Vihhava was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|--------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITHA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 26 Mar. (85) | 3 Tues. | 15 10 7 | 12 Mar. (71) | 3 Tues | 9779-8966 | 365-1427 | 234-2642 | 4601 | |
| 25 Mar. (85) | 4 Wed. | 21 22 16 | 1 Mar. (61) | 1 Sun. | 9994-2515 | 248-0785 | 206-1788 | 4602 | |
| 26 Mar. (85) | 6 Fri. | 3 34 25 | 20 Mar. (79) | 0 Sat. | 29-0239 | 184-6719 | 237-4892 | 4603 | |
| 26 Mar. (85) | 0 Sat. | 9 46 34 | 9 Mar. (68) | 4 Wed. | 9904-6567 | 31-9169 | 226-0659 | 4604 | |
| 26 Mar. (85) | 1 Sun. | 15 58 42 | 27 Feb. (58) | 2 Mon. | 119-0115 | 915-4516 | 198-5806 | 4605 | |
| 25 Mar. (85) | 2 Mon. | 22 10 51 | 17 Mar. (77) | 1 Sun. | 153-6939 | 851-4451 | 249-8910 | 4606 | |
| 26 Mar. (85) | 4 Wed. | 4 23 0 | 6 Mar. (65) | 3 Thur. | 29-4167 | 698-6892 | 219-0078 | 4607 | |
| 26 Mar. (85) | 5 Thur. | 10 35 9 | 25 Mar. (84) | 4 Wed. | 64-0991 | 634-0827 | 279-3781 | 4608 | |
| 26 Mar. (85) | 6 Fri. | 16 47 18 | 14 Mar. (73) | 1 Sun. | 9939-8220 | 481-9267 | 229-5350 | 4609 | |
| 25 Mar. (85) | 0 Sat. | 22 59 27 | 2 Mar. (62) | 5 Thur. | 9816-6448 | 329-1797 | 298-7318 | 4610 | |
| 26 Mar. (85) | 2 Mon. | 5 11 36 | 21 Mar. (80) | 4 Wed. | 9850-2272 | 265-1642 | 260-0422 | 4611 | |
| 26 Mar. (85) | 3 Tues. | 11 23 44 | 11 Mar. (70) | 2 Mon. | 64-5821 | 148-6999 | 231-9567 | 4612 | |
| 26 Mar. (85) | 4 Wed. | 17 35 53 | 28 Feb. (59) | 6 Fri. | 9940-3049 | 995-9440 | 201-1335 | 4613 | |
| 25 Mar. (85) | 5 Thur. | 23 48 2 | 18 Mar. (78) | 5 Thur. | 9974-9872 | 931-9375 | 252-4440 | 4614 | |
| 26 Mar. (85) | 0 Sat. | 6 0 11 | 8 Mar. (67) | 3 Tues. | 189-3421 | 815-4732 | 224-3585 | 4615 | |
| 26 Mar. (85) | 1 Sun. | 12 12 20 | 25 Feb. (56) | 0 Sat. | 65-0650 | 662-7172 | 193-5353 | 4616 | |
| 26 Mar. (85) | 2 Mon. | 18 24 29 | 16 Mar. (75) | 6 Fri. | 99-7473 | 598-7196 | 244-8457 | 4617 | |
| 26 Mar. (86) | 4 Wed. | 0 36 37 | 4 Mar. (64) | 3 Tues. | 9975-4701 | 445-9547 | 214-0226 | 4618 | |
| 26 Mar. (85) | 5 Thur. | 6 48 46 | 23 Mar. (82) | 2 Mon. | 19-1526 | 381-9482 | 265-3330 | 4619 | |
| 26 Mar. (85) | 6 Fri. | 13 0 55 | 12 Mar. (71) | 6 Fri. | 9885-8754 | 229-1922 | 234-5097 | 4620 | |
| 26 Mar. (85) | 0 Sat. | 19 13 4 | 2 Mar. (61) | 4 Wed. | 100-2302 | 112-7280 | 206-4243 | 4621 | |
| 26 Mar. (86) | 2 Mon. | 1 25 13 | 20 Mar. (80) | 3 Tues. | 134-9126 | 48-7215 | 257-7349 | 4622 | |
| 26 Mar. (85) | 3 Tues. | 7 37 22 | 9 Mar. (68) | 0 Sat. | 19-6355 | 895-9655 | 226-9115 | 4623 | |
| 26 Mar. (85) | 4 Wed. | 13 49 30 | 27 Feb. (58) | 5 Thur. | 224-9902 | 779-5912 | 198-8261 | 4624 | |
| 26 Mar. (85) | 5 Thur. | 20 1 39 | 18 Mar. (77) | 4 Wed. | 259-6726 | 715-4946 | 250-1365 | 4625 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lek.</i>) lunar months. |
|------------------|-------|--------------------|-----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māhādī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4626 | 1447 | 1582 | 931 | 699-700 | *1524-25 | 18 Tārāṇa | 26 Nandana | 6 Bhādrapada |
| 4627 | 1448 | 1583 | 932 | 700-01 | 1525-26 | 19 Pārthiva | 27 Vijaya | ... |
| 4628 | 1449 | 1584 | 933 | 701-02 | 1526-27 | 20 Vyaya | 28 Jaya | ... |
| 4629 | 1450 | 1585 | 934 | 702-03 | 1527-28 | 21 Sarvajit | 29 Manmatha | 4 Āshāḍha |
| 4630 | 1451 | 1586 | 935 | 703-04 | *1528-29 | 22 Sarvadhārin | 30 Darmakha | ... |
| 4631 | 1452 | 1587 | 936 | 704-05 | 1529-30 | 23 Virōdhin | 31 Hōmalamba | ... |
| 4632 | 1453 | 1588 | 937 | 705-06 | 1530-31 | 24 Vikṛita | 32 Vilamba | 3 Jyēṣṭha |
| 4633 | 1454 | 1589 | 938 | 706-07 | 1531-32 | 25 Khara | 33 Vikārin | ... |
| 4634 | 1455 | 1590 | 939 | 707-08 | *1532-33 | 26 Nandana | 34 Śārvarin | 7 Āsvina |
| 4635 | 1456 | 1591 | 940 | 708-09 | 1533-34 | 27 Vijaya | 35 Plava | ... |
| 4636 | 1457 | 1592 | 941 | 709-10 | 1534-35 | 28 Jaya | 36 Subhakarit | ... |
| 4637 | 1458 | 1593 | 942 | 710-11 | 1535-36 | 29 Manmatha | 37 Śōbhana | 5 Śrāvaya |
| 4638 | 1459 | 1594 | 943 | 711-12 | *1536-37 | 30 Darmakha | 38 Krōdhin | ... |
| 4639 | 1460 | 1595 | 944 | 712-13 | 1537-38 | 31 Hōmalamba | 39 Viśvāvasu | ... |
| 4640 | 1461 | 1596 | 945 | 713-14 | 1538-39 | 32 Vilamba | 40 Parābhava | 4 Āshāḍha |
| 4641 | 1462 | 1597 | 946 | 714-15 | 1539-40 | 33 Vikārin | 41 Plavaṅga | ... |
| 4642 | 1463 | 1598 | 947 | 715-16 | *1540-41 | 34 Śārvarin | 42 Kilaka | ... |
| 4643 | 1464 | 1599 | 948 | 716-17 | 1541-42 | 35 Plava | 43 Saumya | 2 Vailākha |
| 4644 | 1465 | 1600 | 949 | 717-18 | 1542-43 | 36 Subhakarit | 44 Śādhārāṇa | ... |
| 4645 | 1466 | 1601 | 950 | 718-19 | 1543-44 | 37 Śōbhana | 45 Virōdhakarit | 6 Bhādrapada |
| 4646 | 1467 | 1602 | 951 | 719-20 | *1544-45 | 38 Krōdhin | 46 Paridhāvin | ... |
| 4647 | 1468 | 1603 | 952 | 720-21 | 1545-46 | 39 Viśvāvasu | 47 Pramādin | ... |
| 4648 | 1469 | 1604 | 953 | 721-22 | 1546-47 | 40 Parābhava | 48 Ānanda | 4 Āshāḍha |
| 4649 | 1470 | 1605 | 954 | 722-23 | 1547-48 | 41 Plavaṅga | 49 Rākṣasa | ... |
| 4650 | 1471 | 1606 | 955 | 723-24 | *1548-49 | 42 Kilaka | 50 Anala | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|-------------------------|---------------|--------------------------------------|--|---------------|-----------|-----------|-----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A. D. | Week- day. | Time of true Mēsha- sankranti. | Day and month, A. D. | Week- day. | <i>a.</i> | <i>b.</i> | <i>c.</i> | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 26 Mar. (86) | 0 Sat. . | 2 13 48 | 6 Mar. (66) | 1 Sun. . | 135-3955 | 562-7387 | 219-3134 | 4626 |
| 26 Mar. (85) | 1 Sun. . | 8 25 57 | 25 Mar. (84) | 0 Sat. . | 170-0779 | 498-7322 | 270-6237 | 4627 |
| 26 Mar. (85) | 2 Mon. . | 14 38 6 | 14 Mar. (73) | 4 Wed. . | 45-8007 | 345-9762 | 239-8905 | 4628 |
| 26 Mar. (85) | 3 Tues. . | 20 50 15 | 3 Mar. (62) | 1 Sun. . | 9921-5236 | 193-2263 | 208-9773 | 4629 |
| 26 Mar. (86) | 5 Thurs. | 3 2 23 | 21 Mar. (81) | 0 Sat. . | 9956-3060 | 129-2137 | 260-2878 | 4630 |
| 26 Mar. (85) | 6 Fri. . | 9 14 32 | 11 Mar. (70) | 5 Thurs. | 170-5608 | 12-7495 | 232-2023 | 4631 |
| 26 Mar. (85) | 0 Sat. . | 15 26 41 | 28 Feb. (59) | 2 Mon. . | 46-2836 | 860-0035 | 201-3790 | 4632 |
| 26 Mar. (85) | 1 Sun. . | 21 38 50 | 19 Mar. (78) | 1 Sun. . | 80-9660 | 795-9870 | 252-6895 | 4633 |
| 26 Mar. (86) | 3 Tues. . | 3 50 59 | 8 Mar. (68) | 6 Fri. . | 295-3209 | 679-5227 | 224-6041 | 4634 |
| 26 Mar. (85) | 4 Wed. . | 10 3 8 | 26 Mar. (85) | 4 Wed. . | 9991-3712 | 579-1945 | 273-1767 | 4635 |
| 26 Mar. (85) | 5 Thurs. | 16 15 17 | 15 Mar. (74) | 1 Sun. . | 9867-0941 | 426-4686 | 242-3535 | 4636 |
| 26 Mar. (85) | 6 Fri. . | 22 27 25 | 4 Mar. (63) | 5 Thurs. | 9742-8170 | 273-7126 | 211-5303 | 4637 |
| 26 Mar. (86) | 1 Sun. . | 4 39 34 | 22 Mar. (82) | 4 Wed. . | 9777-4894 | 209-7061 | 262-8408 | 4638 |
| 26 Mar. (85) | 2 Mon. . | 10 51 43 | 12 Mar. (71) | 2 Mon. . | 9991-8551 | 93-2417 | 234-7553 | 4639 |
| 26 Mar. (85) | 3 Tues. . | 17 3 52 | 2 Mar. (61) | 0 Sat. . | 206-2090 | 976-7775 | 266-6699 | 4640 |
| 26 Mar. (85) | 4 Wed. . | 23 16 1 | 21 Mar. (80) | 6 Fri. . | 240-8914 | 912-7710 | 258-6803 | 4641 |
| 26 Mar. (86) | 6 Fri. . | 5 28 10 | 9 Mar. (69) | 3 Tues. . | 116-6132 | 760-0151 | 227-1571 | 4642 |
| 26 Mar. (85) | 0 Sat. . | 11 40 18 | 26 Feb. (57) | 0 Sat. . | 9992-3370 | 907-2591 | 196-3339 | 4643 |
| 26 Mar. (85) | 1 Sun. . | 17 52 27 | 17 Mar. (76) | 6 Fri. . | 27-6195 | 543-2325 | 247-6443 | 4644 |
| 27 Mar. (86) | 3 Tues. . | 0 4 36 | 6 Mar. (65) | 3 Tues. . | 9902-7423 | 390-4966 | 216-8211 | 4645 |
| 26 Mar. (86) | 4 Wed. . | 6 12 45 | 24 Mar. (84) | 2 Mon. . | 9937-4247 | 326-4900 | 268-1214 | 4646 |
| 26 Mar. (85) | 5 Thurs. | 12 28 54 | 13 Mar. (72) | 6 Fri. . | 9813-1475 | 173-7341 | 237-3083 | 4647 |
| 26 Mar. (85) | 6 Fri. . | 18 41 3 | 3 Mar. (62) | 4 Wed. . | 27-6024 | 57-2698 | 209-2229 | 4648 |
| 27 Mar. (86) | 1 Sun. . | 6 53 11 | 22 Mar. (81) | 3 Tues. . | 62-1847 | 993-2632 | 260-5333 | 4649 |
| 26 Mar. (86) | 2 Mon. . | 7 5 20 | 11 Mar. (71) | 1 Sun. . | 276-5396 | 876-7990 | 232-4478 | 4650 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māshādi (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4651 | 1472 | 1607 | 956 | 724-25 | 1549-50 | 43 Saumya . | 51 Pīngala . | 3 Jyēsthā . |
| 4652 | 1473 | 1608 | 957 | 725-26 | 1550-51 | 44 Sādhārāṇa . | 52 Kālayukta . | ... |
| 4653 | 1474 | 1609 | 958 | 726-27 | 1551-52 | 45 Virōdhakrit . | 53 Siddhārthīn . | 7 Āśvina . |
| 4654 | 1475 | 1610 | 959 | 727-28 | *1552-53 | 46 Paridhāvin . | 54 Raudra . | ... |
| 4655 | 1476 | 1611 | 960 | 728-29 | 1553-54 | 47 Pramādin . | 55 Durmatī . | ... |
| 4656 | 1477 | 1612 | 961 | 729-30 | 1554-55 | 48 Ānanda . | 56 Dundubhi . | 5 Śrāvāṇa . |
| 4657 | 1478 | 1613 | 962 | 730-31 | 1555-56 | 49 Rākshasa . | 57 Rudhīrōdgārin . | ... |
| 4658 | 1479 | 1614 | 963 | 731-32 | *1556-57 | 50 Anala . | 58 Raktāksha . | ... |
| 4659 | 1480 | 1615 | 964 | 732-33 | 1557-58 | 51 Pīngala . | 59 Krōdhana . | 4 Āshāḍha . |
| 4660 | 1481 | 1616 | 965 | 733-34 | 1558-59 | 52 Kālayukta . | 60 Kahaya . | ... |
| 4661 | 1482 | 1617 | 966 | 734-35 | 1559-60 | 53 Siddhārthīn . | 1 Prabhava . | ... |
| 4662 | 1483 | 1618 | 967 | 735-36 | *1560-61 | 54 Raudra . | 2 Vībhava . | 2 Vaiśākha . |
| 4663 | 1484 | 1619 | 968 | 736-37 | 1561-62 | 55 Durmatī . | 3 Śukla . | ... |
| 4664 | 1485 | 1620 | 969 | 737-38 | 1562-63 | 56 Dundubhi . | 4 Pramōda . | 6 Bhādrapada . |
| 4665 | 1486 | 1621 | 970 | 738-39 | 1563-64 | 57 Rudhīrōdgārin . | 5 Prajāpati . | ... |
| 4666 | 1487 | 1622 | 971 | 739-40 | *1564-65 | 58 Raktāksha . | 6 Āngīras . | ... |
| 4667 | 1488 | 1623 | 972 | 740-41 | 1565-66 | 59 Krōdhana . | 7 Śrīmukha . | 4 Āshāḍha . |
| 4668 | 1489 | 1624 | 973 | 741-42 | 1566-67 | 60 Kahaya . | 8 Bhāva . | ... |
| 4669 | 1490 | 1625 | 974 | 742-43 | 1567-68 | 1 Prabhava . | 9 Yuvan . | ... |
| 4670 | 1491 | 1626 | 975 | 743-44 | *1568-69 | 2 Vībhava . | 10 Dhātri . | 3 Jyēsthā . |
| 4671 | 1492 | 1627 | 976 | 744-45 | 1569-70 | 3 Śukla . | 11 Īśvara . | ... |
| 4672 | 1493 | 1628 | 977 | 745-46 | 1570-71 | 4 Pramōda . | 12 Babudhānya . | 7 Āśvina . |
| 4673 | 1494 | 1629 | 978 | 746-47 | 1571-72 | 5 Prajāpati . | 13 Pramāthīn . | ... |
| 4674 | 1495 | 1630 | 979 | 747-48 | *1572-73 | 6 Āngīras . | 14 Vikrama . | ... |
| 4675 | 1496 | 1631 | 980 | 748-49 | 1573-74 | 7 Śrīmukha . | 15 Vriṣha . | 5 Śrāvāṇa . |

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| COMMENCEMENT OF THE | | | | | | | | |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week- day. | Time of true Mēcha- samkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 26 Mar. (85) | 3 Tues. . | 13 17 29 | 28th Feb. (59) | 5 Thur. | 132-2624 | 724-0430 | 201-6246 | 4651 |
| 26 Mar. (85) | 4 Wed. . | 19 29 38 | 19 Mar. (78) | 4 Wed. . | 186-9447 | 660-0365 | 252-9351 | 4652 |
| 27 Mar. (86) | 6 Fri. . | 1 41 47 | 8 Mar. (67) | 1 Sun. . | 62-6076 | 507-3166 | 222-1018 | 4653 |
| 26 Mar. (86) | 0 Sat. . | 7 52 56 | 26 Mar. (86) | 0 Sat. . | 97-3500 | 443-2740 | 273-4222 | 4654 |
| 26 Mar. (85) | 1 Sun. . | 14 6 4 | 15 Mar. (74) | 4 Wed. . | 9973-0729 | 290-5191 | 242-5991 | 4655 |
| 26 Mar. (85) | 2 Mon. . | 20 18 13 | 4 Mar. (63) | 1 Sun. . | 9848-7957 | 137-7622 | 212-2759 | 4656 |
| 27 Mar. (86) | 4 Wed. . | 2 30 22 | 23 Mar. (82) | 0 Sat. . | 9883-4781 | 73-7536 | 263-0863 | 4657 |
| 26 Mar. (86) | 5 Thur. | 8 42 31 | 12 Mar. (72) | 5 Thur. | 97-8329 | 957-2012 | 235-0008 | 4658 |
| 26 Mar. (85) | 6 Fri. . | 14 54 40 | 2 Mar. (61) | 3 Tues. . | 312-1878 | 840-8270 | 206-9154 | 4659 |
| 26 Mar. (85) | 0 Sat. . | 21 6 49 | 20 Mar. (79) | 1 Sun. . | 8-2381 | 740-5288 | 255-4881 | 4660 |
| 27 Mar. (86) | 2 Mon. . | 3 18 58 | 10 Mar. (69) | 6 Fri. . | 222-5930 | 624-0646 | 227-4026 | 4661 |
| 26 Mar. (86) | 3 Tues. . | 9 31 6 | 27 Feb. (58) | 3 Tues. . | 98-3158 | 471-3090 | 106-5794 | 4662 |
| 26 Mar. (85) | 4 Wed. . | 15 43 15 | 16 Mar. (75) | 1 Sun. . | 9794-3672 | 371-0104 | 245-1420 | 4663 |
| 26 Mar. (85) | 5 Thur. | 21 55 24 | 6 Mar. (65) | 6 Fri. . | 8-7210 | 254-5461 | 217-0667 | 4664 |
| 27 Mar. (86) | 0 Sat. . | 4 7 33 | 25 Mar. (84) | 5 Thur. | 43-4034 | 190-5396 | 268-3770 | 4665 |
| 26 Mar. (86) | 1 Sun. . | 10 19 42 | 13 Mar. (73) | 2 Mon. . | 9919-1263 | 37-7836 | 237-5538 | 4666 |
| 26 Mar. (85) | 2 Mon. . | 16 31 51 | 3 Mar. (62) | 0 Sat. . | 132-4811 | 921-3193 | 209-4684 | 4667 |
| 26 Mar. (85) | 3 Tues. . | 22 43 59 | 22 Mar. (81) | 6 Fri. . | 168-1635 | 857-3128 | 260-7789 | 4668 |
| 27 Mar. (86) | 5 Thur. | 4 56 8 | 11 Mar. (70) | 3 Tues. . | 43-8864 | 704-5568 | 229-9556 | 4669 |
| 26 Mar. (86) | 6 Fri. . | 11 8 17 | 28 Feb. (59) | 0 Sat. . | 9919-6901 | 551-8009 | 190-1324 | 4670 |
| 26 Mar. (85) | 0 Sat. . | 17 20 26 | 18 Mar. (77) | 6 Fri. . | 9954-2915 | 487-7943 | 250-4428 | 4671 |
| 26 Mar. (85) | 1 Sun. . | 23 32 35 | 7 Mar. (66) | 3 Tues. . | 9831-0114 | 375-5724 | 219-6197 | 4672 |
| 27 Mar. (86) | 3 Tues. . | 5 44 44 | 26 Mar. (85) | 2 Mon. . | 9864-6968 | 271-0319 | 270-9300 | 4673 |
| 26 Mar. (86) | 4 Wed. . | 11 56 52 | 15 Mar. (75) | 0 Sat. . | 79-0516 | 154-5676 | 242-8446 | 4674 |
| 26 Mar. (85) | 5 Thur. | 18 9 1 | 4 Mar. (63) | 4 Wed. . | 9954-7745 | 1-8117 | 212-0214 | 4675 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>kā.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|---|
| Kal. | Saka. | Chaitradī Vikrama. | Mēshālī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4676 | 1497 | 1632 | 981 | 749-50 | 1574-75 | 8 Bhāva . . | 16 Chitrabhānu . . | ... |
| 4677 | 1498 | 1633 | 982 | 750-51 | 1575-76 | 9 Yuvan . . | 17 Subhānu . . | ... |
| 4678 | 1499 | 1634 | 983 | 751-52 | *1576-77 | 10 Dhātri . . | 18 Tāraka . . | 4 Āshāḍha . |
| 4679 | 1500 | 1635 | 984 | 752-53 | 1577-78 | 11 Īvara . . | 19 Pārthiva . . | ... |
| 4680 | 1501 | 1636 | 985 | 753-54 | 1578-79 | 12 Bahudhānya . . | 20 Vyaya . . | ... |
| 4681 | 1502 | 1637 | 986 | 754-55 | 1579-80 | 13 Pramāthia . . | 21 Sarvajit . . | 1 Chaitra . |
| 4682 | 1503 | 1638 | 987 | 755-56 | *1580-81 | 14 Vikrama . . | 22 Sarvadhārin . . | ... |
| 4683 | 1504 | 1639 | 988 | 756-57 | 1581-82 | 15 Vṛisha . . | 23 Virōdhin . . | 6 Bhādrapada . |
| 4684 | 1505 | 1640 | 989 | 757-58 | 1582-83 | 16 Chitrabhānu . . | 24 Vikṛita . . | ... |
| 4685 | 1506 | 1641 | 990 | 758-59 | 1583-84 | 17 Subhānu . . | 25 Khara . . | ... |
| 4686 | 1507 | 1642 | 991 | 759-60 | *1584-85 | 18 Tāraka . . | 26 Nandana . . | 4 Āshāḍha . |
| 4687 | 1508 | 1643 | 992 | 760-61 | 1585-86 | 19 Pārthiva . . | 27 Vijaya† . . | ... |
| 4688 | 1509 | 1644 | 993 | 761-62 | 1586-87 | 20 Vyaya . . | 28 Manmatha . . | ... |
| 4689 | 1510 | 1645 | 994 | 762-63 | 1587-88 | 21 Sarvajit . . | 29 Durmukha . . | 3 Jyēṣṭha . |
| 4690 | 1511 | 1646 | 995 | 763-64 | *1588-89 | 22 Sarvadhārin . . | 30 H. malamba . . | ... |
| 4691 | 1512 | 1647 | 996 | 764-65 | 1589-90 | 23 Virōdhin . . | 31 Vilamba . . | 7 Āvina . |
| 4692 | 1513 | 1648 | 997 | 765-66 | 1590-91 | 24 Vikṛita . . | 32 Vīkārīn . . | ... |
| 4693 | 1514 | 1649 | 998 | 766-67 | 1591-92 | 25 Khara . . | 33 Śārcarīn . . | ... |
| 4694 | 1515 | 1650 | 999 | 767-68 | *1592-93 | 26 Nandana . . | 34 Pīva . . | 5 Śrāvapa . |
| 4695 | 1516 | 1651 | 1000 | 768-69 | 1593-94 | 27 Vijaya . . | 35 Śubhākrit . . | ... |
| 4696 | 1517 | 1652 | 1001 | 769-70 | 1594-95 | 28 Jaya . . | 36 Śābhana . . | ... |
| 4697 | 1518 | 1653 | 1002 | 770-71 | 1595-96 | 29 Manmatha . . | 37 Kṛ. dhīn . . | 4 Āshāḍha . |
| 4698 | 1519 | 1654 | 1003 | 771-72 | *1596-97 | 30 Durmukha . . | 38 Vīśārasa . . | ... |
| 4699 | 1520 | 1655 | 1004 | 772-73 | 1597-98 | 31 H. malamba . . | 39 Parābhava . . | ... |
| 4700 | 1521 | 1656 | 1005 | 773-74 | 1598-99 | 32 Vilamba . . | 40 Pīvamāna . . | 1 Chaitra . |

† 28 Jaya was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | |
|-----------------------|---------------|--------------------------------------|--|---------------|-----------|----------|----------|----------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali. year. |
| Day and month A.D. | Week- day. | Time of true Mēsha- samkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 27 Mar. (86) | 0 Sat. | 0 21 10 | 23 Mar. (82) | 3 Tues. | 9989-4569 | 937-8051 | 263-3319 | 4676 |
| 2 Mar. (86) | 1 Sun. | 6 13 19 | 13 Mar. (72) | 1 Sun. | 203-8116 | 821-3407 | 235-2464 | 4677 |
| 26 Mar. (86) | 2 Mon. | 12 45 28 | 1 Mar. (61) | 5 Thur. | 79-5345 | 608-5848 | 204-4231 | 4678 |
| 26 Mar. (85) | 3 Tues. | 18 57 37 | 20 Mar. (79) | 4 Wed. | 114-2169 | 604-5783 | 255-7330 | 4679 |
| 27 Mar. (86) | 5 Thur. | 1 9 45 | 9 Mar. (68) | 1 Sun. | 9980-9398 | 451-8224 | 224-9104 | 4680 |
| 27 Mar. (86) | 6 Fri. | 7 21 54 | 26 Feb. (57) | 5 Thur. | 9865-6626 | 299-0664 | 194-0872 | 4681 |
| 2 Mar. (86) | 0 Sat. | 13 34 3 | 16 Mar. (76) | 4 Wed. | 9000-3450 | 235-0599 | 245-3975 | 4682 |
| 26 Mar. (85) | 1 Sun. | 19 46 12 | 5 Mar. (64) | 1 Sun. | 9776-0678 | 82-3039 | 214-5744 | 4683 |
| 27 Mar. (86) | 3 Tues. | 1 58 21 | 24 Mar. (83) | 0 Sat. | 9810-7501 | 18-2935 | 265-8848 | 4684 |
| 27 Mar. (86) | 4 Wed. | 8 10 30 | 14 Mar. (73) | 5 Thur. | 25-1050 | 901-8331 | 237-7994 | 4685 |
| 26 Mar. (86) | 5 Thur. | 14 22 39 | 3 Mar. (63) | 3 Tues. | 239-4598 | 785-3688 | 209-7139 | 4686 |
| 26 Mar. (85) | 6 Fri. | 20 34 47 | 22 Mar. (81) | 2 Mon. | 274-1423 | 721-3623 | 261-0244 | 4687 |
| 27 Mar. (86) | 1 Sun. | 2 46 56 | 11 Mar. (70) | 6 Fri. | 149-8651 | 568-6063 | 230-2012 | 4688 |
| 27 Mar. (86) | 2 Mon. | 8 59 5 | 28 Feb. (59) | 3 Tues. | 25-5879 | 415-8503 | 199-3780 | 4689 |
| 26 Mar. (86) | 3 Tues. | 15 11 14 | 18 Mar. (78) | 2 Mon. | 60-2703 | 351-8438 | 250-6883 | 4690 |
| 26 Mar. (85) | 4 Wed. | 21 23 23 | 7 Mar. (66) | 6 Fri. | 9935-9932 | 199-0879 | 219-8652 | 4691 |
| 27 Mar. (86) | 6 Fri. | 3 35 32 | 26 Mar. (85) | 5 Thur. | 9970-6755 | 135-0814 | 271-1756 | 4692 |
| 27 Mar. (86) | 0 Sat. | 9 47 40 | 15 Mar. (74) | 2 Mon. | 9846-3985 | 982-3255 | 240-3324 | 4693 |
| 26 Mar. (86) | 1 Sun. | 15 59 49 | 4 Mar. (64) | 0 Sat. | 60-7533 | 865-8612 | 212-2669 | 4694 |
| 26 Mar. (85) | 2 Mon. | 22 11 58 | 23 Mar. (82) | 6 Fri. | 95-4356 | 802-8547 | 263-5774 | 4695 |
| 27 Mar. (86) | 4 Wed. | 4 24 8 | 13 Mar. (72) | 4 Wed. | 309-7904 | 683-3903 | 235-4917 | 4696 |
| 27 Mar. (86) | 5 Thur. | 10 36 16 | 2 Mar. (61) | 1 Sun. | 185-5133 | 532-6343 | 204-6687 | 4697 |
| 26 Mar. (86) | 6 Fri. | 16 48 25 | 19 Mar. (79) | 6 Fri. | 9881-5636 | 432-3362 | 253-2413 | 4698 |
| 26 Mar. (85) | 0 Sat. | 23 0 33 | 8 Mar. (67) | 3 Tues. | 9757-2863 | 279-5903 | 222-4181 | 4699 |
| 27 Mar. (86) | 2 Mon. | 5 12 42 | 26 Feb. (57) | 1 Sun. | 9971-6413 | 163-1160 | 194-3328 | 4700 |

TABLE

| CONCURRENT YEAR | | | | | | | | Intercalated and suppressed (<i>leap</i>), lunar months. |
|-----------------|-------|--------------------|-----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēśādi (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4701 | 1522 | 1657 | 1006 | 774-75 | 1599-00 | 33 Vikārin | 42 <i>Kṛkaka</i> | ... |
| 4702 | 1523 | 1658 | 1007 | 775-76 | *1600-01 | 34 Śārvarin | 43 <i>Saumya</i> | 5 Śrāvapa |
| 4703 | 1524 | 1659 | 1008 | 776-77 | 1601-02 | 35 Plava | 44 Sādhāraṇa | ... |
| 4704 | 1525 | 1660 | 1009 | 777-78 | 1602-03 | 36 Subhakarit | 45 Virōdhakarit | ... |
| 4705 | 1526 | 1661 | 1010 | 778-79 | 1603-04 | 37 Śobhana | 46 Paridhāvin | 4 Āshāḍha |
| 4706 | 1527 | 1662 | 1011 | 779-80 | *1604-05 | 38 Krōdhin | 47 Pramādin | ... |
| 4707 | 1528 | 1663 | 1012 | 780-81 | 1605-06 | 39 Viśvāvasu | 48 Ananda | ... |
| 4708 | 1529 | 1664 | 1013 | 781-82 | 1606-07 | 40 Parābhava | 49 Rākshasa | 2 Vaiśākha |
| 4709 | 1530 | 1665 | 1014 | 782-83 | 1607-08 | 41 Plavaṅga | 50 Anala | ... |
| 4710 | 1531 | 1666 | 1015 | 783-84 | *1608-09 | 42 Kṛkaka | 51 Piṅgala | 6 Bhādrapada |
| 4711 | 1532 | 1667 | 1016 | 784-85 | 1609-10 | 43 Saumya | 52 Kālayukta | ... |
| 4712 | 1533 | 1668 | 1017 | 785-86 | 1610-11 | 44 Sādhāraṇa | 53 Siddhārthin | ... |
| 4713 | 1534 | 1669 | 1018 | 786-87 | 1611-12 | 45 Virōdhakarit | 54 Raudra | 5 Śrāvapa |
| 4714 | 1535 | 1670 | 1019 | 787-88 | *1612-13 | 46 Paridhāvin | 55 Dumatī | ... |
| 4715 | 1536 | 1671 | 1020 | 788-89 | 1613-14 | 47 Pramādin | 56 Dundubhi | ... |
| 4716 | 1537 | 1672 | 1021 | 789-90 | 1614-15 | 48 Ananda | 57 Rudhirōdgārin | 3 Jyēṣṭha |
| 4717 | 1538 | 1673 | 1022 | 790-91 | 1615-16 | 49 Rākshasa | 58 Raktāksha | ... |
| 4718 | 1539 | 1674 | 1023 | 791-92 | *1616-17 | 50 Anala | 59 Krōdhana | ... |
| 4719 | 1540 | 1675 | 1024 | 792-93 | 1617-18 | 51 Piṅgala | 60 Kāḥya | 1 Chaitra |
| 4720 | 1541 | 1676 | 1025 | 793-94 | 1618-19 | 52 Kālayukta | 1 Prabhava | ... |
| 4721 | 1542 | 1677 | 1026 | 794-95 | 1619-20 | 53 Siddhārthin | 2 Vābhava | 5 Śrāvapa |
| 4722 | 1543 | 1678 | 1027 | 795-96 | *1620-21 | 54 Raudra | 3 Sukla | ... |
| 4723 | 1544 | 1679 | 1028 | 796-97 | 1621-22 | 55 Dumatī | 4 Pramōda | ... |
| 4724 | 1545 | 1680 | 1029 | 797-98 | 1622-23 | 56 Dundubhi | 5 Prajāpati | 4 Āshāḍha |
| 4725 | 1546 | 1681 | 1030 | 798-99 | 1623-24 | 57 Rudhirōdgārin | 6 Aṅgiras | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 27 Mar. (86) | 3 Tues. | 11 24 51 | 17 Mar. (76) | 0 Sat. | 6-3237 | 99-1094 | 245-5239 | 4701 |
| 26 Mar. (86) | 4 Wed. | 17 37 0 | 6 Mar. (66) | 5 Thurs. | 220-6785 | 982-6452 | 217-4772 | 4702 |
| 26 Mar. (85) | 5 Thurs. | 23 49 9 | 25 Mar. (84) | 4 Wed. | 255-3609 | 918-6386 | 268-7875 | 4703 |
| 27 Mar. (86) | 0 Sat. | 6 1 18 | 14 Mar. (73) | 1 Sun. | 131-0837 | 765-8827 | 237-0643 | 4704 |
| 27 Mar. (86) | 1 Sun. | 12 13 26 | 3 Mar. (62) | 5 Thurs. | 6-8066 | 613-1267 | 297-1411 | 4705 |
| 26 Mar. (86) | 2 Mon. | 18 25 35 | 21 Mar. (81) | 4 Wed. | 41-4890 | 549-1202 | 258-4516 | 4706 |
| 27 Mar. (86) | 4 Wed. | 0 37 44 | 10 Mar. (69) | 1 Sun. | 9917-2118 | 396-3643 | 227-6283 | 4707 |
| 27 Mar. (86) | 5 Thurs. | 6 49 53 | 27 Feb. (58) | 5 Thurs. | 9792-9346 | 243-6083 | 196-8051 | 4708 |
| 27 Mar. (86) | 6 Fri. | 13 2 2 | 18 Mar. (77) | 4 Wed. | 9827-8171 | 179-6018 | 248-1155 | 4709 |
| 26 Mar. (86) | 0 Sat. | 19 14 11 | 7 Mar. (67) | 2 Mon. | 41-9718 | 63-1374 | 220-6302 | 4710 |
| 27 Mar. (86) | 2 Mon. | 1 26 20 | 26 Mar. (85) | 1 Sun. | 76-7452 | 999-1309 | 271-3405 | 4711 |
| 27 Mar. (86) | 3 Tues. | 7 38 28 | 16 Mar. (75) | 6 Fri. | 291-0091 | 882-6666 | 243-2551 | 4712 |
| 27 Mar. (86) | 4 Wed. | 13 50 37 | 5 Mar. (64) | 3 Tues. | 166-7320 | 729-9107 | 212-4319 | 4713 |
| 26 Mar. (86) | 5 Thurs. | 20 2 46 | 23 Mar. (83) | 2 Mon. | 201-4143 | 665-9642 | 263-7424 | 4714 |
| 27 Mar. (86) | 0 Sat. | 2 14 55 | 12 Mar. (71) | 6 Fri. | 77-1372 | 513-1482 | 232-9181 | 4715 |
| 27 Mar. (86) | 1 Sun. | 8 27 4 | 1 Mar. (60) | 3 Tues. | 9952-8600 | 360-3923 | 202-0958 | 4716 |
| 27 Mar. (86) | 2 Mon. | 14 39 13 | 20 Mar. (79) | 2 Mon. | 9987-5423 | 290-4047 | 253-4063 | 4717 |
| 26 Mar. (86) | 3 Tues. | 20 51 21 | 8 Mar. (68) | 6 Fri. | 9863-2652 | 143-6298 | 222-5831 | 4718 |
| 27 Mar. (86) | 5 Thurs. | 3 3 30 | 26 Feb. (57) | 4 Wed. | 77-6201 | 27-1654 | 191-4977 | 4719 |
| 27 Mar. (86) | 6 Fri. | 9 15 39 | 17 Mar. (76) | 3 Tues. | 112-3025 | 963-1589 | 245-8080 | 4720 |
| 27 Mar. (86) | 0 Sat. | 15 27 48 | 6 Mar. (65) | 0 Sat. | 9988-0252 | 810-4030 | 214-9849 | 4721 |
| 26 Mar. (86) | 1 Sun. | 21 39 57 | 24 Mar. (84) | 6 Fri. | 22-7077 | 746-3965 | 266-2953 | 4722 |
| 27 Mar. (86) | 3 Tues. | 3 52 6 | 14 Mar. (73) | 4 Wed. | 237-0625 | 629-0332 | 238-2099 | 4723 |
| 27 Mar. (86) | 4 Wed. | 10 4 14 | 3 Mar. (62) | 1 Sun. | 112-7853 | 477-1763 | 297-3825 | 4724 |
| 27 Mar. (86) | 5 Thurs. | 16 16 23 | 21 Mar. (86) | 6 Fri. | 9808-8357 | 376-8780 | 255-9593 | 4725 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|-----------------------------------|---------|----------|---------------------|--------------------|--|
| Kali. | Śaka. | Chaitradī Vikrama. | Māhādī (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4726 | 1547 | 1682 | 1031 | 799-00 | *1624-25 | 58 Raktāksha . | 7 Śrīmukha . | ... |
| 4727 | 1548 | 1683 | 1032 | 800-01 | 1625-26 | 59 Krōdhana . | 8 Bhāva . | 2 Vaiśākha . |
| 4728 | 1549 | 1684 | 1033 | 801-02 | 1626-27 | 60 Kahaya . | 9 Yuvan . | ... |
| 4729 | 1550 | 1685 | 1034 | 802-03 | 1627-28 | 1 Prabhava . | 10 Dhātṛi . | 6 Bhādrapada . |
| 4730 | 1551 | 1686 | 1035 | 803-04 | *1628-29 | 2 Vibhava . | 11 Īvara . | ... |
| 4731 | 1552 | 1687 | 1036 | 804-05 | 1629-30 | 3 Śukla . | 12 Bahudhānya . | ... |
| 4732 | 1553 | 1688 | 1037 | 805-06 | 1630-31 | 4 Pramōda . | 13 Pramāthin . | 5 Śrāvapa . |
| 4733 | 1554 | 1689 | 1038 | 806-07 | 1631-32 | 5 Prajāpati . | 14 Vikrama . | ... |
| 4734 | 1555 | 1690 | 1039 | 807-08 | *1632-33 | 6 Aṅgiras . | 15 Vṛisha . | ... |
| 4735 | 1556 | 1691 | 1040 | 808-09 | 1633-34 | 7 Śrīmukha . | 16 Chitrabhānu . | 3 Jyēṣṭha . |
| 4736 | 1557 | 1692 | 1041 | 809-10 | 1634-35 | 8 Bhāva . | 17 Subhānu . | ...* |
| 4737 | 1558 | 1693 | 1042 | 810-11 | 1635-36 | 9 Yuvan . | 18 Tārāpa . | ... |
| 4738 | 1559 | 1694 | 1043 | 811-12 | *1636-37 | 10 Dhātṛi . | 19 Pārthiva . | 1 Chaitra . |
| 4739 | 1560 | 1695 | 1044 | 812-13 | 1637-38 | 11 Īvara . | 20 Vyaya . | ... |
| 4740 | 1561 | 1696 | 1045 | 813-14 | 1638-39 | 12 Bahudhānya . | 21 Sarvajit . | 5 Śrāvapa . |
| 4741 | 1562 | 1697 | 1046 | 814-15 | 1639-40 | 13 Pramāthin . | 22 Sarvadhārin . | ... |
| 4742 | 1563 | 1698 | 1047 | 815-16 | *1640-41 | 14 Vikrama . | 23 Virōdhin . | ... |
| 4743 | 1564 | 1699 | 1048 | 816-17 | 1641-42 | 15 Vṛisha . | 24 Vikṛita . | 4 Āshāḍha . |
| 4744 | 1565 | 1700 | 1049 | 817-18 | 1642-43 | 16 Chitrabhānu . | 25 Khara . | ... |
| 4745 | 1566 | 1701 | 1050 | 818-19 | 1643-44 | 17 Subhānu . | 26 Nandana . | ... |
| 4746 | 1567 | 1702 | 1051 | 819-20 | *1644-45 | 18 Tārāpa . | 27 Vijaya . | 2 Vaiśākha . |
| 4747 | 1568 | 1703 | 1052 | 820-21 | 1645-46 | 19 Pārthiva . | 28 Jaya . | ... |
| 4748 | 1569 | 1704 | 1053 | 821-22 | 1646-47 | 20 Vyaya . | 29 Manmatha . | 6 Bhādrapada . |
| 4749 | 1570 | 1705 | 1054 | 822-23 | 1647-48 | 21 Sarvajit . | 30 Durmukha . | ... |
| 4750 | 1571 | 1706 | 1055 | 823-24 | *1648-49 | 22 Sarvadhārin . | 31 Hēmalamba . | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S | | | | | | |
| 26 Mar. (86) | 6 Fri. | 22 28 32 | 10 Mar. (70) | 4 Wed. | 23-1906 | 260-4138 | 227-8739 | 4726 |
| 27 Mar. (86) | 1 Sun. | 4 40 41 | 27 Feb. (58) | 1 Sun. | 0898-9134 | 107-6578 | 197-0507 | 4727 |
| 27 Mar. (86) | 2 Mon. | 10 52 50 | 18 Mar. (77) | 0 Sat. | 9933-5958 | 43-6413 | 248-3616 | 4728 |
| 27 Mar. (86) | 3 Tues. | 17 4 59 | 8 Mar. (67) | 5 Thur. | 147-9506 | 927-1870 | 220-2757 | 4729 |
| 26 Mar. (86) | 4 Wed. | 23 17 7 | 26 Mar. (80) | 4 Wed. | 183-6330 | 862-1804 | 271-5861 | 4730 |
| 27 Mar. (86) | 6 Fri. | 5 29 16 | 15 Mar. (74) | 1 Sun. | 58-3558 | 710-4245 | 240-7629 | 4731 |
| 27 Mar. (86) | 0 Sat. | 11 41 25 | 5 Mar. (64) | 6 Fri. | 272-7107 | 593-9602 | 212-6774 | 4732 |
| 27 Mar. (86) | 1 Sun. | 17 53 34 | 23 Mar. (82) | 4 Wed. | 9968-7611 | 493-6626 | 261-2561 | 4733 |
| 27 Mar. (87) | 3 Tues. | 0 5 43 | 11 Mar. (71) | 1 Sun. | 9844-4840 | 340-9061 | 230-4269 | 4734 |
| 27 Mar. (86) | 4 Wed. | 6 17 52 | 28 Feb. (59) | 5 Thur. | 9720-2067 | 188-1500 | 199-6937 | 4735 |
| 27 Mar. (86) | 5 Thur. | 12 30 1 | 19 Mar. (78) | 4 Wed. | 9754-8891 | 124-1476 | 250-9140 | 4736 |
| 27 Mar. (86) | 6 Fri. | 18 42 9 | 9 Mar. (68) | 2 Mon. | 9969-2440 | 7-6793 | 222-8288 | 4737 |
| 27 Mar. (87) | 1 Sun. | 0 54 18 | 27 Feb. (58) | 0 Sat. | 183-5888 | 891-2150 | 194-7423 | 4738 |
| 27 Mar. (86) | 2 Mon. | 7 6 27 | 17 Mar. (76) | 6 Fri. | 218-2812 | 827-2084 | 246-0536 | 4739 |
| 27 Mar. (86) | 3 Tues. | 13 18 36 | 6 Mar. (65) | 3 Tues. | 94-0040 | 674-4525 | 215-2305 | 4740 |
| 27 Mar. (86) | 4 Wed. | 19 30 45 | 25 Mar. (84) | 2 Mon. | 128-6865 | 610-4460 | 266-5408 | 4741 |
| 27 Mar. (87) | 6 Fri. | 1 42 54 | 13 Mar. (73) | 6 Fri. | 4-3092 | 457-6800 | 235-7177 | 4742 |
| 27 Mar. (86) | 0 Sat. | 7 55 2 | 2 Mar. (61) | 3 Tues. | 9880-1321 | 304-9341 | 204-8934 | 4743 |
| 27 Mar. (86) | 1 Sun. | 14 7 11 | 21 Mar. (80) | 2 Mon. | 9914-8145 | 240-9275 | 256-2049 | 4744 |
| 27 Mar. (86) | 2 Mon. | 20 19 20 | 10 Mar. (69) | 6 Fri. | 0790-6374 | 89-1716 | 225-3816 | 4745 |
| 27 Mar. (87) | 4 Wed. | 2 31 29 | 28 Feb. (59) | 4 Wed. | 4-8921 | 971-7073 | 197-2662 | 4746 |
| 27 Mar. (86) | 5 Thur. | 8 43 38 | 18 Mar. (77) | 3 Tues. | 39-5746 | 907-7008 | 242-6066 | 4747 |
| 27 Mar. (86) | 6 Fri. | 14 55 47 | 8 Mar. (67) | 1 Sun. | 253-9294 | 791-2365 | 220-4233 | 4748 |
| 27 Mar. (86) | 0 Sat. | 21 7 55 | 27 Mar. (86) | 0 Sat. | 288-6117 | 727-2299 | 271-8319 | 4749 |
| 27 Mar. (87) | 2 Mon. | 3 29 4 | 15 Mar. (75) | 4 Wed. | 164-1346 | 574-4740 | 241-0084 | 4750 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|----------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chalukya Vikrama. | Māghadī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4751 | 1572 | 1707 | 1056 | 824-25 | 1649-50 | 23 Virōdhin | 32 Vilamba | 5 Śrāvapa |
| 4752 | 1573 | 1708 | 1057 | 825-26 | 1650-51 | 24 Vikṛita | 33 Vikārin | ... |
| 4753 | 1574 | 1709 | 1058 | 826-27 | 1651-52 | 25 Khara | 34 Śārvarin | ... |
| 4754 | 1575 | 1710 | 1059 | 827-28 | *1652-53 | 26 Nandana | 35 Plava | 3 Jyēṣṭha |
| 4755 | 1576 | 1711 | 1060 | 828-29 | 1653-54 | 27 Vijaya | 36 Śubhakṛit | ... |
| 4756 | 1577 | 1712 | 1061 | 829-30 | 1654-55 | 28 Jaya | 37 Śōbhana | { 7 Āsvina 10 Pausa (<i>ksh.</i>) } |
| 4757 | 1578 | 1713 | 1062 | 830-31 | 1655-56 | 29 Manmatha | 38 Krōdhin | 1 Chaitra |
| 4758 | 1579 | 1714 | 1063 | 831-32 | *1656-57 | 30 Darmukha | 39 Viśvāvasu | ... |
| 4759 | 1580 | 1715 | 1064 | 832-33 | 1657-58 | 31 Hēmalamba | 40 Parābhava | 5 Śrāvapa |
| 4760 | 1581 | 1716 | 1065 | 833-34 | 1658-59 | 32 Vilamba | 41 Plavaṅga | ... |
| 4761 | 1582 | 1717 | 1066 | 834-35 | 1659-60 | 33 Vikārin | 42 Kīlaka | ... |
| 4762 | 1583 | 1718 | 1067 | 835-36 | *1660-61 | 34 Śārvarin | 43 Saumya | 4 Āshāḍha |
| 4763 | 1584 | 1719 | 1068 | 836-37 | 1661-62 | 35 Plava | 44 Sādhārana | ... |
| 4764 | 1585 | 1720 | 1069 | 837-38 | 1662-63 | 36 Śubhakṛit | 45 Virōdhakṛit | ... |
| 4765 | 1586 | 1721 | 1070 | 838-39 | 1663-64 | 37 Śōbhana | 46 Paridhāvin | 2 Vaiśākha |
| 4766 | 1587 | 1722 | 1071 | 839-40 | *1664-65 | 38 Krōdhin | 47 Pramādin | ... |
| 4767 | 1588 | 1723 | 1072 | 840-41 | 1665-66 | 39 Viśvāvasu | 48 Ananda | 6 Bhādrapada |
| 4768 | 1589 | 1724 | 1073 | 841-42 | 1666-67 | 40 Parābhava | 49 Rākahasa | ... |
| 4769 | 1590 | 1725 | 1074 | 842-43 | 1667-68 | 41 Plavaṅga | 50 Anala | ... |
| 4770 | 1591 | 1726 | 1075 | 843-44 | *1668-69 | 42 Kīlaka | 51 Piṅgala | 4 Āshāḍha |
| 4771 | 1592 | 1727 | 1076 | 844-45 | 1669-70 | 43 Saumya | 52 Kālayukta | ... |
| 4772 | 1593 | 1728 | 1077 | 845-46 | 1670-71 | 44 Sādhārana | 53 Siddhārthin | ... |
| 4773 | 1594 | 1729 | 1078 | 846-47 | 1671-72 | 45 Virōdhakṛit | 54 Raudra† | 3 Jyēṣṭha |
| 4774 | 1595 | 1730 | 1079 | 847-48 | *1672-73 | 46 Paridhāvin | 55 Dvandvāḥi | ... |
| 4775 | 1596 | 1731 | 1080 | 848-49 | 1673-74 | 47 Pramādin | 57 Rudhīrādgrīa | { 7 Āsvina 11 Māgha (<i>ksh.</i>) } |

† 55 Darmati was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITA SURELA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēshasankranti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 27 Mar. (86) | 3 Tues. | 9 32 13 | 4 Mar. (63) | 1 Sun. | 40-0575 | 421-6980 | 210-1852 | 4751 |
| 27 Mar. (86) | 4 Wed. | 15 44 22 | 23 Mar. (82) | 0 Sat. | 74-7398 | 357-6915 | 261-4957 | 4752 |
| 27 Mar. (86) | 5 Thur. | 21 56 31 | 19 Mar. (71) | 4 Wed. | 9950-4627 | 204-9916 | 230-6724 | 4753 |
| 27 Mar. (87) | 0 Sat. | 4 8 41 | 29 Feb. (60) | 1 Sun. | 9826-1855 | 52-1990 | 199-8402 | 4754 |
| 27 Mar. (86) | 1 Sun. | 10 20 49 | 19 Mar. (78) | 0 Sat. | 9800-8079 | 988-1031 | 251-1506 | 4755 |
| 27 Mar. (86) | 2 Mon. | 16 32 58 | 9 Mar. (68) | 5 Thur. | 75-2227 | 871-7289 | 223-0742 | 4756 |
| 27 Mar. (86) | 3 Tues. | 22 45 7 | 26 Feb. (57) | 2 Mon. | 9930-9456 | 718-9728 | 192-2510 | 4757 |
| 27 Mar. (87) | 5 Thur. | 4 57 16 | 16 Mar. (76) | 1 Sun. | 9985-6280 | 654-9363 | 243-5614 | 4758 |
| 27 Mar. (86) | 6 Fri. | 11 9 25 | 6 Mar. (65) | 6 Fri. | 199-9828 | 538-5020 | 215-4762 | 4759 |
| 27 Mar. (86) | 0 Sat. | 17 21 34 | 24 Mar. (83) | 4 Wed. | 9990-0332 | 438-2039 | 264-9487 | 4760 |
| 27 Mar. (86) | 1 Sun. | 23 33 43 | 13 Mar. (72) | 1 Sun. | 9771-7560 | 285-5479 | 233-2254 | 4761 |
| 27 Mar. (87) | 3 Tues. | 5 45 50 | 2 Mar. (62) | 6 Fri. | 9986-1109 | 168-9836 | 205-1399 | 4762 |
| 27 Mar. (86) | 4 Wed. | 11 57 59 | 21 Mar. (80) | 5 Thur. | 20-7932 | 101-9771 | 256-4504 | 4763 |
| 27 Mar. (86) | 5 Thur. | 18 10 8 | 10 Mar. (69) | 2 Mon. | 9896-5161 | 962-2211 | 225-6272 | 4764 |
| 28 Mar. (87) | 0 Sat. | 0 22 17 | 28 Feb. (59) | 0 Sat. | 110-8709 | 625-7568 | 197-5418 | 4765 |
| 27 Mar. (87) | 1 Sun. | 6 34 26 | 18 Mar. (75) | 6 Fri. | 145-5534 | 771-7503 | 248-8621 | 4766 |
| 27 Mar. (86) | 2 Mon. | 12 46 35 | 7 Mar. (66) | 3 Tues. | 21-2761 | 618-9944 | 218-0290 | 4767 |
| 27 Mar. (86) | 3 Tues. | 18 58 43 | 26 Mar. (85) | 2 Mon. | 55-9585 | 554-9879 | 269-3394 | 4768 |
| 28 Mar. (87) | 5 Thur. | 1 10 52 | 15 Mar. (74) | 6 Fri. | 9931-0814 | 402-2319 | 238-5162 | 4769 |
| 27 Mar. (87) | 6 Fri. | 7 23 1 | 3 Mar. (63) | 3 Tues. | 9807-4042 | 249-4760 | 207-6929 | 4770 |
| 27 Mar. (86) | 0 Sat. | 13 35 10 | 22 Mar. (81) | 2 Mon. | 9842-0866 | 185-4694 | 259-0634 | 4771 |
| 27 Mar. (86) | 1 Sun. | 19 47 19 | 12 Mar. (71) | 0 Sat. | 56-4415 | 69-0051 | 230-9180 | 4772 |
| 28 Mar. (87) | 3 Tues. | 1 59 28 | 1 Mar. (60) | 4 Wed. | 9032-1643 | 916-2491 | 206-0948 | 4773 |
| 27 Mar. (87) | 4 Wed. | 8 11 36 | 19 Mar. (79) | 3 Tues. | 9966-9466 | 852-2426 | 251-4051 | 4774 |
| 27 Mar. (86) | 5 Thur. | 14 23 45 | 9 Mar. (68) | 1 Sun. | 191-2015 | 735-7788 | 223-3197 | 4775 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|-----------------------------------|--------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādī (solar) year in Bengal. | Kollam | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4776 | 1597 | 1732 | 1081 | 849-50 | 1674-75 | 48 Ananda | 58 <i>Raktāksha</i> | 1 Chaitra |
| 4777 | 1598 | 1733 | 1082 | 850-51 | 1675-76 | 49 Rākshasa | 59 <i>Kṛddhana</i> | ... |
| 4778 | 1599 | 1734 | 1083 | 851-52 | *1676-77 | 50 Anala | 60 <i>Kahaya</i> | 5 Śrāvana |
| 4779 | 1600 | 1735 | 1084 | 852-53 | 1677-78 | 51 Piṅgala | 1 <i>Prabhava</i> | ... |
| 4780 | 1601 | 1736 | 1085 | 853-54 | 1678-79 | 52 Kālayukta | 2 <i>Vibhava</i> | ... |
| 4781 | 1602 | 1737 | 1086 | 854-55 | 1679-80 | 53 Siddhārthina | 3 <i>Śukla</i> | 3 Jyēṣṭha† |
| 4782 | 1603 | 1738 | 1087 | 855-56 | *1680-81 | 54 Randra | 4 <i>Pramōda</i> | ... |
| 4783 | 1604 | 1739 | 1088 | 856-57 | 1681-82 | 55 Durmati | 5 <i>Prajāpati</i> | ... |
| 4784 | 1605 | 1740 | 1089 | 857-58 | 1682-83 | 56 Dandubhi | 6 <i>Angīras</i> | 2 Vaiśākha |
| 4785 | 1606 | 1741 | 1090 | 858-59 | 1683-84 | 57 Rudhirōdgārin | 7 <i>Śrīmukha</i> | ... |
| 4786 | 1607 | 1742 | 1091 | 859-60 | *1684-85 | 58 Raktāksha | 8 <i>Bhāva</i> | 6 Bhādrapada |
| 4787 | 1608 | 1743 | 1092 | 860-61 | 1685-86 | 59 Kṛddhana | 9 <i>Yuvana</i> | ... |
| 4788 | 1609 | 1744 | 1093 | 861-62 | 1686-87 | 60 Kahaya | 10 Dhātri | ... |
| 4789 | 1610 | 1745 | 1094 | 862-63 | 1687-88 | 1 Prabhava | 11 <i>Isvara</i> | 4 Āshāḍha |
| 4790 | 1611 | 1746 | 1095 | 863-64 | *1688-89 | 2 Vibhava | 12 Bahudhānya | ... |
| 4791 | 1612 | 1747 | 1096 | 864-65 | 1689-90 | 3 Śukla | 13 Pramāthin | ... |
| 4792 | 1613 | 1748 | 1097 | 865-66 | 1690-91 | 4 Pramōda | 14 Vikrama | 3 Jyēṣṭha |
| 4793 | 1614 | 1749 | 1098 | 866-67 | 1691-92 | 5 Prajāpati | 15 <i>Vriha</i> | ... |
| 4794 | 1615 | 1750 | 1099 | 867-68 | *1692-93 | 6 Angīras | 16 Chitrabhānu | 7 Āśvina |
| 4795 | 1616 | 1751 | 1100 | 868-69 | 1693-94 | 7 Śrīmukha | 17 Subhānu | ... |
| 4796 | 1617 | 1752 | 1101 | 869-70 | 1694-95 | 8 Bhāva | 18 Tātana | ... |
| 4797 | 1618 | 1753 | 1102 | 870-71 | 1695-96 | 9 Yuvana | 19 Pārthiva | 5 Śrāvana |
| 4798 | 1619 | 1754 | 1103 | 871-72 | *1696-97 | 10 Dhātri | 20 <i>Vyaya</i> | ... |
| 4799 | 1620 | 1755 | 1104 | 872-73 | 1697-98 | 11 Isvara | 21 Sarvajit | ... |
| 4800 | 1621 | 1756 | 1105 | 873-74 | 1698-99 | 12 Bahudhānya | 22 Sarvadhārin | 3 Jyēṣṭha |

† See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITHA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-sainkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 27 Mar. (86) | 6 Fri. | 20 35 54 | 26 Feb. (57) | 5 Thur. | 56-9244 | 583-0221 | 192-4966 | 4770 |
| 28 Mar. (87) | 1 Sun. | 2 48 3 | 17 Mar. (76) | 4 Wed. | 91-6067 | 519-0158 | 243-8070 | 4777 |
| 27 Mar. (87) | 2 Mon. | 9 0 12 | 5 Mar. (65) | 1 Sun. | 9907-3296 | 306-2599 | 212-9837 | 4778 |
| 27 Mar. (86) | 3 Tues. | 15 12 21 | 24 Mar. (83) | 0 Sat. | 2-0120 | 302-2534 | 264-2942 | 4779 |
| 27 Mar. (86) | 4 Wed. | 21 24 30 | 13 Mar. (72) | 4 Wed. | 9877-7348 | 149-4947 | 233-4719 | 4780 |
| 28 Mar. (87) | 6 Fri. | 3 36 38 | 3 Mar. (62) | 2 Mon. | 92-0896 | 33-0331 | 295-3855 | 4781 |
| 27 Mar. (87) | 0 Sat. | 9 48 47 | 21 Mar. (81) | 1 Sun. | 126-7720 | 969-0266 | 256-6959 | 4782 |
| 27 Mar. (86) | 1 Sun. | 16 0 56 | 10 Mar. (69) | 5 Thur. | 2-4949 | 816-2796 | 225-8727 | 4783 |
| 27 Mar. (86) | 2 Mon. | 22 13 5 | 28 Feb. (59) | 3 Tues. | 216-8496 | 699-6023 | 197-7874 | 4784 |
| 28 Mar. (87) | 4 Wed. | 4 25 14 | 19 Mar. (78) | 2 Mon. | 251-6321 | 635-7998 | 249-0977 | 4785 |
| 27 Mar. (87) | 5 Thur. | 10 37 23 | 7 Mar. (67) | 6 Fri. | 127-2548 | 483-0439 | 218-2745 | 4786 |
| 27 Mar. (86) | 6 Fri. | 16 49 31 | 25 Mar. (84) | 4 Wed. | 9823-3054 | 382-7457 | 266-8471 | 4787 |
| 27 Mar. (86) | 0 Sat. | 23 1 40 | 15 Mar. (74) | 2 Mon. | 37-6661 | 266-2813 | 238-7618 | 4788 |
| 28 Mar. (87) | 2 Mon. | 5 13 49 | 4 Mar. (63) | 6 Fri. | 9913-3830 | 113-5254 | 207-9385 | 4789 |
| 27 Mar. (87) | 3 Tues. | 11 25 58 | 22 Mar. (82) | 5 Thur. | 9948-0654 | 49-5189 | 259-2489 | 4790 |
| 27 Mar. (86) | 4 Wed. | 17 38 7 | 12 Mar. (71) | 3 Tues. | 162-4263 | 933-0536 | 231-1635 | 4791 |
| 27 Mar. (86) | 5 Thur. | 23 50 16 | 1 Mar. (60) | 0 Sat. | 38-1430 | 780-2987 | 200-3403 | 4792 |
| 28 Mar. (87) | 0 Sat. | 6 2 24 | 20 Mar. (79) | 6 Fri. | 72-8254 | 710-2821 | 261-6507 | 4793 |
| 27 Mar. (87) | 1 Sun. | 12 14 33 | 8 Mar. (68) | 3 Tues. | 9948-5483 | 563-5362 | 220-8271 | 4794 |
| 27 Mar. (86) | 2 Mon. | 18 26 42 | 27 Mar. (86) | 2 Mon. | 9983-2306 | 499-5297 | 272-1378 | 4795 |
| 28 Mar. (87) | 4 Wed. | 6 38 51 | 16 Mar. (75) | 6 Fri. | 9858-9535 | 346-7737 | 241-3148 | 4796 |
| 28 Mar. (87) | 5 Thur. | 6 51 0 | 5 Mar. (64) | 3 Tues. | 9734-6764 | 194-0177 | 219-4915 | 4797 |
| 27 Mar. (87) | 6 Fri. | 13 3 9 | 23 Mar. (83) | 2 Mon. | 9769-3587 | 130-0112 | 261-8019 | 4798 |
| 27 Mar. (86) | 0 Sat. | 19 15 17 | 13 Mar. (72) | 0 Sat. | 9983-7135 | 13-5469 | 233-7165 | 4799 |
| 28 Mar. (87) | 2 Mon. | 1 27 26 | 3 Mar. (62) | 5 Thur. | 198-0684 | 897-0827 | 205-6311 | 4800 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lek</i> .) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māgadhī (solar) year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4801 | 1622 | 1757 | 1199 | 874-75 | 1699-00 | 13 Pramāthia | 23 Virōdhin | ... |
| 4802 | 1623 | 1758 | 1107 | 875-76 | *1700-01 | 14 Vikrama | 24 Vikṛita | ... |
| 4803 | 1624 | 1759 | 1108 | 876-77 | 1701-02 | 15 Vriha | 25 Khara | 2 Vaisākha |
| 4804 | 1625 | 1760 | 1109 | 877-78 | 1702-03 | 16 Chitrabhānu | 26 Nandana | ... |
| 4805 | 1626 | 1761 | 1110 | 878-79 | 1703-04 | 17 Subhānu | 27 Vijaya | 6 Bhādrapada |
| 4806 | 1627 | 1762 | 1111 | 879-80 | *1704-05 | 18 Tāraka | 28 Jaya | ... |
| 4807 | 1628 | 1763 | 1112 | 880-81 | 1705-06 | 19 Plothiva | 29 Manmatha | ... |
| 4808 | 1629 | 1764 | 1113 | 881-82 | 1706-07 | 20 Vyaya | 30 Darmukha | 4 Āshādha |
| 4809 | 1630 | 1765 | 1114 | 882-83 | 1707-08 | 21 Sarvajit | 31 Hēmalamba | ... |
| 4810 | 1631 | 1766 | 1115 | 883-84 | *1708-09 | 22 Sarvadhāra | 32 Vilamba | ... |
| 4811 | 1632 | 1767 | 1116 | 884-85 | 1709-10 | 23 Virōdhin | 33 Vikārin | 3 Jyēsthā |
| 4812 | 1633 | 1768 | 1117 | 885-86 | 1710-11 | 24 Vikṛita | 34 Śārvarin | ... |
| 4813 | 1634 | 1769 | 1118 | 886-87 | 1711-12 | 25 Khara | 35 Plava | 7 Āvina |
| 4814 | 1635 | 1770 | 1119 | 887-88 | *1712-13 | 26 Nandana | 36 Subhakṛit | ... |
| 4815 | 1636 | 1771 | 1120 | 888-89 | 1713-14 | 27 Vijaya | 37 Subhānu | ... |
| 4816 | 1637 | 1772 | 1121 | 889-90 | 1714-15 | 28 Jaya | 38 Krōdhin | 5 Śrāvapa |
| 4817 | 1638 | 1773 | 1122 | 890-91 | 1715-16 | 29 Manmatha | 39 Vīśāvasu | ... |
| 4818 | 1639 | 1774 | 1123 | 891-92 | *1716-17 | 30 Darmukha | 40 Parābhava | ... |
| 4819 | 1640 | 1775 | 1124 | 892-93 | 1717-18 | 31 Hēmalamba | 41 Plavaṅga | 4 Āshādha† |
| 4820 | 1641 | 1776 | 1125 | 893-94 | 1718-19 | 32 Vilamba | 42 Kilaka | ... |
| 4821 | 1642 | 1777 | 1126 | 894-95 | 1719-20 | 33 Vikārin | 43 Saumya | ... |
| 4822 | 1643 | 1778 | 1127 | 895-96 | *1720-21 | 34 Śārvarin | 44 Sādhāraṇa | 1 Chaitra |
| 4823 | 1644 | 1779 | 1128 | 896-97 | 1721-22 | 35 Plava | 45 Virōdhakṛit | ... |
| 4824 | 1645 | 1780 | 1129 | 897-98 | 1722-23 | 36 Subhakṛit | 46 Parādhāra | 6 Bhādrapada |
| 4825 | 1646 | 1781 | 1130 | 898-99 | 1723-24 | 37 Subhānu | 47 Pramādin | ... |

† See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (87) | 3 Tues. | 7 39 36 | 22 Mar. (81) | 4 Wed. | 232-7508 | 833-0761 | 256-8610 | 4801 | |
| 27 Mar. (87) | 4 Wed. | 13 51 44 | 10 Mar. (70) | 1 Sun. | 108-4737 | 680-3202 | 226-0378 | 4802 | |
| 27 Mar. (86) | 5 Thur. | 20 3 53 | 27 Feb. (58) | 5 Thur. | 9984-1965 | 527-5642 | 195-2146 | 4803 | |
| 28 Mar. (87) | 0 Sat. | 2 16 2 | 18 Mar. (77) | 4 Wed. | 18-8789 | 463-5577 | 246-5249 | 4804 | |
| 28 Mar. (87) | 1 Sun. | 8 28 11 | 7 Mar. (66) | 1 Sun. | 9894-0617 | 310-8017 | 215-7918 | 4805 | |
| 27 Mar. (87) | 2 Mon. | 14 40 19 | 25 Mar. (85) | 0 Sat. | 9029-2842 | 246-7952 | 267-6122 | 4806 | |
| 27 Mar. (86) | 3 Tues. | 20 52 28 | 14 Mar. (73) | 4 Wed. | 9805-0069 | 94-9493 | 236-1890 | 4807 | |
| 28 Mar. (87) | 5 Thur. | 3 4 37 | 4 Mar. (63) | 2 Mon. | 19-3618 | 977-5750 | 208-1035 | 4808 | |
| 28 Mar. (87) | 6 Fri. | 9 16 46 | 23 Mar. (82) | 1 Sun. | 54-0442 | 913-5685 | 259-4140 | 4809 | |
| 27 Mar. (87) | 0 Sat. | 15 28 55 | 12 Mar. (72) | 6 Fri. | 263-3990 | 797-1641 | 231-3286 | 4810 | |
| 27 Mar. (86) | 1 Sun. | 21 41 4 | 1 Mar. (60) | 3 Tues. | 144-1218 | 644-3482 | 200-5053 | 4811 | |
| 28 Mar. (87) | 3 Tues. | 3 53 12 | 20 Mar. (79) | 2 Mon. | 178-8042 | 580-3416 | 251-8157 | 4812 | |
| 28 Mar. (87) | 4 Wed. | 10 5 21 | 9 Mar. (68) | 6 Fri. | 54-5271 | 427-5857 | 220-9926 | 4813 | |
| 27 Mar. (87) | 5 Thur. | 16 17 30 | 26 Mar. (86) | 4 Wed. | 9750-5774 | 327-2876 | 269-5652 | 4814 | |
| 27 Mar. (86) | 6 Fri. | 22 29 39 | 16 Mar. (75) | 2 Mon. | 9964-9323 | 210-8232 | 241-4798 | 4815 | |
| 28 Mar. (87) | 1 Sun. | 4 41 48 | 5 Mar. (64) | 6 Fri. | 9840-6552 | 58-0673 | 210-0565 | 4816 | |
| 28 Mar. (87) | 3 Mon. | 10 53 57 | 24 Mar. (83) | 5 Thur. | 9875-3375 | 994-0697 | 261-0670 | 4817 | |
| 27 Mar. (87) | 3 Tues. | 17 6 5 | 13 Mar. (73) | 3 Tues. | 89-0023 | 877-5964 | 233-8816 | 4818 | |
| 27 Mar. (86) | 4 Wed. | 23 18 14 | 3 Mar. (62) | 1 Sun. | 304-0472 | 761-1321 | 205-7961 | 4819 | |
| 28 Mar. (87) | 6 Fri. | 5 30 23 | 21 Mar. (80) | 6 Fri. | 0-0976 | 660-8340 | 254-3677 | 4820 | |
| 28 Mar. (87) | 0 Sat. | 11 42 32 | 11 Mar. (79) | 4 Wed. | 214-4324 | 544-3697 | 226-2833 | 4821 | |
| 27 Mar. (87) | 1 Sun. | 17 54 41 | 28 Feb. (59) | 1 Sun. | 90-1752 | 391-6138 | 196-4602 | 4822 | |
| 28 Mar. (87) | 3 Tues. | 0 6 50 | 17 Mar. (76) | 6 Fri. | 9796-2257 | 291-3156 | 244-0328 | 4823 | |
| 28 Mar. (87) | 4 Wed. | 6 18 58 | 7 Mar. (66) | 4 Wed. | 0-5804 | 174-8513 | 215-9473 | 4824 | |
| 28 Mar. (87) | 5 Thur. | 12 31 7 | 26 Mar. (85) | 3 Tues. | 35-2929 | 110-8447 | 267-2577 | 4825 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>leā</i> .) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi (solar) year in Bengal. | Kollam. | A.D. | Jovian Samvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4826 | 1647 | 1782 | 1131 | 899-00 | *1724-25 | 38 Krōdhin . | 48 Ānanda . | ... |
| 4827 | 1648 | 1783 | 1132 | 900-01 | 1725-26 | 39 Visvārasu . | 49 Rākshasa . | 4 Āshādha . |
| 4828 | 1649 | 1784 | 1133 | 901-02 | 1726-27 | 40 Parābhava . | 50 Anala . | ... |
| 4829 | 1650 | 1785 | 1134 | 902-03 | 1727-28 | 41 Plavānga . | 51 Piāgala . | ... |
| 4830 | 1651 | 1786 | 1135 | 903-04 | *1728-29 | 42 Kilaka . | 52 Kālayukta . | 3 Jyēṣṭha . |
| 4831 | 1652 | 1787 | 1136 | 904-05 | 1729-30 | 43 Saumya . | 53 Siddhārthin . | ... |
| 4832 | 1653 | 1788 | 1137 | 905-06 | 1730-31 | 44 Sādhāraṇa . | 54 Raudra . | 7 Āśvina . |
| 4833 | 1654 | 1789 | 1138 | 906-07 | 1731-32 | 45 Virōdhakṛit . | 55 Durmatī . | ... |
| 4834 | 1655 | 1790 | 1139 | 907-08 | *1732-33 | 46 Paridhāvin . | 56 Dundubhi . | ... |
| 4835 | 1656 | 1791 | 1140 | 908-09 | 1733-34 | 47 Pramādin . | 57 Rudhīrōdgārin . | 5 Śrāvapa . |
| 4836 | 1657 | 1792 | 1141 | 909-10 | 1734-35 | 48 Ānanda . | 58 Raktāksha . | ... |
| 4837 | 1658 | 1793 | 1142 | 910-11 | 1735-36 | 49 Rākshasa . | 59 Krōdhana . | ... |
| 4838 | 1659 | 1794 | 1143 | 911-12 | *1736-37 | 50 Anala . | 60 Kahaya . | 4 Āshādha† . |
| 4839 | 1660 | 1795 | 1144 | 912-13 | 1737-38 | 51 Piāgala . | 1 Prabhava . | ... |
| 4840 | 1661 | 1796 | 1145 | 913-14 | 1738-39 | 52 Kālayukta . | 2 Vibhava . | ... |
| 4841 | 1662 | 1797 | 1146 | 914-15 | 1739-40 | 53 Siddhārthin . | 3 Śukla . | 1 Chaitra . |
| 4842 | 1663 | 1798 | 1147 | 915-16 | *1740-41 | 54 Raudra . | 4 Pramōda . | ... |
| 4843 | 1664 | 1799 | 1148 | 916-17 | 1741-42 | 55 Durmatī . | 5 Prajāpati . | 5 Śrāvapa . |
| 4844 | 1665 | 1800 | 1149 | 917-18 | 1742-43 | 56 Dundubhi . | 6 Āngira . | ... |
| 4845 | 1666 | 1801 | 1150 | 918-19 | 1743-44 | 57 Rudhīrōdgārin . | 7 Śrīmukha . | ... |
| 4846 | 1667 | 1802 | 1151 | 919-20 | *1744-45 | 58 Raktāksha . | 8 Bhāva . | 4 Āshādha . |
| 4847 | 1668 | 1803 | 1152 | 920-21 | 1745-46 | 59 Krōdhana . | 9 Yuvan . | ... |
| 4848 | 1669 | 1804 | 1153 | 921-22 | 1746-47 | 60 Kahaya . | 10 Dhātṛi . | ... |
| 4849 | 1670 | 1805 | 1154 | 922-23 | 1747-48 | 1 Prabhava . | 11 Iāvra . | 2 Vaiśākha . |
| 4850 | 1671 | 1806 | 1155 | 923-24 | *1748-49 | 2 Vibhava . | 12 Bahudhānya . | ... |
| 4851 | 1672 | 1807 | 1156 | 924-25 | 1749-50 | 3 Śukla . | 13 Pramāthin . | 6 Bhādrapada† |
| 4852 | 1673 | 1808 | 1157 | 925-26 | 1750-51 | 4 Pramōda . | 14 Vikrama . | ... |

† See Remarks, p. 163 above.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|--|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | | |
| | | H. M. S. | | | | | | 1 | |
| 27 Mar (87) | 6 Fri. | 18 43 16 | 14 Mar. (74) | 0 Sat. | 9910-9857 | 958-0888 | 236-4346 | 4826 | |
| 28 Mar (87) | 1 Sun. | 0 55 25 | 4 Mar. (63) | 5 Thur. | 125-3406 | 841-6245 | 208-3491 | 4827 | |
| 28 Mar. (87) | 2 Mon. | 7 7 34 | 23 Mar. (82) | 4 Wed. | 160-0229 | 777-6180 | 259-6595 | 4828 | |
| 28 Mar. (87) | 3 Tues. | 13 19 43 | 12 Mar. (71) | 1 Sun. | 35-7458 | 624-8621 | 228-8363 | 4829 | |
| 27 Mar (87) | 4 Wed. | 19 31 52 | 29 Feb. (60) | 5 Thur. | 9911-4686 | 472-1060 | 198-0132 | 4830 | |
| 28 Mar. (87) | 6 Fri. | 1 44 0 | 19 Mar. (78) | 4 Wed. | 9946-1510 | 408-0996 | 249-3235 | 4831 | |
| 28 Mar. (87) | 0 Sat. | 7 56 9 | 8 Mar. (67) | 1 Sun. | 9821-8738 | 255-3436 | 218-5003 | 4832 | |
| 28 Mar. (87) | 1 Sun. | 14 8 18 | 27 Mar (86) | 0 Sat. | 9856-5562 | 191-3371 | 260-8107 | 4833 | |
| 27 Mar. (87) | 2 Mon. | 20 20 27 | 16 Mar. (76) | 5 Thur. | 70-9111 | 74-8718 | 241-7254 | 4834 | |
| 28 Mar. (87) | 4 Wed. | 2 32 36 | 5 Mar. (64) | 2 Mon. | 9946-6339 | 922-0868 | 210-9021 | 4835 | |
| 28 Mar. (87) | 5 Thur. | 8 44 45 | 24 Mar. (83) | 1 Sun. | 9981-3163 | 858-1103 | 262-2125 | 4836 | |
| 28 Mar. (87) | 6 Fri. | 14 56 53 | 14 Mar. (73) | 6 Fri. | 195-6711 | 741-6459 | 234-1271 | 4837 | |
| 27 Mar. (87) | 0 Sat. | 21 9 2 | 2 Mar. (62) | 3 Tues. | 71-3840 | 588-8900 | 203-3039 | 4838 | |
| 28 Mar. (87) | 2 Mon. | 3 21 11 | 21 Mar. (80) | 2 Mon. | 106-0763 | 524-8835 | 254-6143 | 4839 | |
| 28 Mar. (87) | 3 Tues. | 9 33 20 | 10 Mar. (69) | 6 Fri. | 9981-7992 | 372-1276 | 223-7911 | 4840 | |
| 28 Mar (87) | 4 Wed. | 15 45 29 | 27 Feb (58) | 3 Tues. | 9857-5221 | 219-3716 | 192-9679 | 4841 | |
| 27 Mar. (87) | 5 Thur. | 21 57 38 | 17 Mar. (77) | 2 Mon. | 9892-2044 | 155-3650 | 244-2783 | 4842 | |
| 28 Mar. (87) | 0 Sat. | 4 9 46 | 7 Mar. (66) | 0 Sat. | 106-5592 | 38-9008 | 216-1929 | 4843 | |
| 28 Mar. (87) | 1 Sun. | 10 21 55 | 26 Mar. (85) | 6 Fri. | 141-2417 | 974-8942 | 267-5033 | 4844 | |
| 28 Mar. (87) | 2 Mon. | 16 34 4 | 15 Mar. (74) | 3 Tues. | 16-9645 | 822-1383 | 236-6801 | 4845 | |
| 27 Mar. (87) | 3 Tues. | 22 46 13 | 4 Mar. (64) | 1 Sun. | 231-3193 | 705-6740 | 208-5946 | 4846 | |
| 28 Mar. (87) | 5 Thur. | 4 58 22 | 23 Mar. (82) | 0 Sat. | 266-0017 | 641-6675 | 259-9051 | 4847 | |
| 28 Mar. (87) | 6 Fri. | 11 10 31 | 12 Mar. (71) | 4 Wed. | 141-7246 | 488-9116 | 229-0819 | 4848 | |
| 28 Mar. (87) | 0 Sat. | 17 22 39 | 1 Mar. (60) | 1 Sun. | 17-4473 | 336-1555 | 198-2587 | 4849 | |
| 27 Mar. (87) | 1 Sun. | 23 34 48 | 19 Mar. (79) | 0 Sat. | 52-1298 | 272-1491 | 249-5690 | 4850 | |
| 28 Mar (87) | 3 Tues. | 5 46 57 | 8 Mar (67) | 4 Wed. | 9928-8526 | 119-3931 | 218-7459 | 4851 | |
| 28 Mar (87) | 4 Wed. | 11 59 6 | 27 Mar. (86) | 3 Tues. | 9962-5349 | 55-3866 | 270-0563 | 4852 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lek.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali | Saka. | Chaitrādi Vikrama. | Meshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4853 | 1674 | 1809 | 1158 | 926.27 | 1751.52 | 5 Prajāpati . | 15 Vṛisha . | ... |
| 4854 | 1675 | 1810 | 1159 | 927.28 | *1752.53 | 6 Aṅgiras . | 16 Chitrabhānu . | 5 Śrāvaṇa . |
| 4855 | 1676 | 1811 | 1160 | 928.29 | 1753.54 | 7 Śrīmukha . | 17 Subhānu . | ... |
| 4856 | 1677 | 1812 | 1161 | 929.30 | 1754.55 | 8 Bhāva . | 18 Tāra . | ... |
| 4857 | 1678 | 1813 | 1162 | 930.31 | 1755.56 | 9 Yava . | 19 Pārthiva . | 3 Jyēṣṭha . |
| 4858 | 1679 | 1814 | 1163 | 931.32 | *1756.57 | 10 Dhātṛi . | 20 Vyaya* . | ... |
| 4859 | 1680 | 1815 | 1164 | 932.33 | 1757.58 | 11 Īvara . | 22 Sarvadhāra . | ... |
| 4860 | 1681 | 1816 | 1165 | 933.34 | 1758.59 | 12 Bahudhānya . | 23 Virōdhin . | 1 Chaitra . |
| 4861 | 1682 | 1817 | 1166 | 934.35 | 1759.60 | 13 Pramāthin . | 24 Vikṛita . | ... |
| 4862 | 1683 | 1818 | 1167 | 935.36 | *1760.61 | 14 Vikrama . | 25 Khara . | 5 Śrāvaṇa . |
| 4863 | 1684 | 1819 | 1168 | 936.37 | 1761.62 | 15 Vṛisha . | 26 Nandana . | ... |
| 4864 | 1685 | 1820 | 1169 | 937.38 | 1762.63 | 16 Chitrabhānu . | 27 Vijaya . | ... |
| 4865 | 1686 | 1821 | 1170 | 938.39 | 1763.64 | 17 Subhānu . | 28 Jaya . | 4 Ashāḍha . |
| 4866 | 1687 | 1822 | 1171 | 939.40 | *1764.65 | 18 Tāra . | 29 Maumatha . | ... |
| 4867 | 1688 | 1823 | 1172 | 940.41 | 1765.66 | 19 Pārthiva . | 30 Darmukha . | ... |
| 4868 | 1689 | 1824 | 1173 | 941.42 | 1766.67 | 20 Vyaya . | 31 Himadamba . | 2 Vaiśākha . |
| 4869 | 1690 | 1825 | 1174 | 942.43 | 1767.68 | 21 Sarvajit . | 32 Vilamba . | ... |
| 4870 | 1691 | 1826 | 1175 | 943.44 | *1768.69 | 22 Sarvadhāra . | 33 Vitāra . | 6 Bhādrapada . |
| 4871 | 1692 | 1827 | 1176 | 944.45 | 1769.70 | 23 Virōdhin . | 34 Śarvira . | ... |
| 4872 | 1693 | 1828 | 1177 | 945.46 | 1770.71 | 24 Vikṛita . | 35 Phala . | ... |
| 4873 | 1694 | 1829 | 1178 | 946.47 | 1771.72 | 25 Khara . | 36 Śubhakṛit . | 5 Śrāvaṇa . |
| 4874 | 1695 | 1830 | 1179 | 947.48 | *1772.73 | 26 Nandana . | 37 Śobhana . | ... |
| 4875 | 1696 | 1831 | 1180 | 948.49 | 1773.74 | 27 Vijaya . | 38 Krōdhin . | ... |
| 4876 | 1697 | 1832 | 1181 | 949.50 | 1774.75 | 28 Jaya . | 39 Viśvāvasu . | 3 Jyēṣṭha . |
| 4877 | 1698 | 1833 | 1182 | 950.51 | 1775.76 | 29 Maumatha . | 40 Parābhava . | ... |

* 21 Sarvajit was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|-----------------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankranti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| 28 Mar. (87) | 5 Thur. . | 18 11 15 | 17 Mar. (76) | 1 Sun. . | 176-8898 | 938-0222 | 241-9708 | 4853 | |
| 28 Mar. (88) | 0 Sat. . | 0 23 24 | 5 Mar. (65) | 5 Thur. | 52-6127 | 876-1662 | 211-1475 | 4854 | |
| 8 Apr. (98)* | 1 Sun. . | 6 35 33 | 4 Apr. (94)* | 4 Wed. . | 87-2951 | 722-1597 | 262-4580 | 4855 | |
| 8 Apr. (98) | 2 Mon. . | 12 47 42 | 24 Mar. (83) | 1 Sun. . | 9963-0179 | 509-4038 | 231-6348 | 4856 | |
| 8 Apr. (98) | 3 Tues. . | 18 59 50 | 13 Mar. (72) | 5 Thur. | 9838-7497 | 416-6478 | 200-8115 | 4857 | |
| 8 Apr. (99) | 5 Thur. | 1 11 59 | 31 Mar. (91) | 4 We ^d . . | 9873-4231 | 332-6412 | 252-1219 | 4858 | |
| 8 Apr. (98) | 6 Fri. . | 7 24 8 | 20 Mar. (79) | 1 Sun. . | 9749-1460 | 199-8853 | 221-2988 | 4859 | |
| 8 Apr. (98) | 0 Sat. . | 13 36 17 | 10 Mar. (69) | 6 Fri. . | 9963-5007 | 83-4211 | 193-2123 | 4860 | |
| 8 Apr. (98) | 1 Sun. . | 19 48 26 | 29 Mar. (88) | 5 Thur. | 9998-1832 | 19-4145 | 244-5237 | 4861 | |
| 8 Apr. (99) | 3 Tues. . | 2 0 35 | 18 Mar. (78) | 3 Tues. . | 212-5380 | 902-9502 | 216-4383 | 4862 | |
| 8 Apr. (98) | 4 Wed. . | 8 12 43 | 6 Apr. (96) | 2 Mon. . | 247-2204 | 838-9437 | 277-7387 | 4863 | |
| 8 Apr. (98) | 5 Thur. | 14 24 52 | 26 Mar. (85) | 6 Fri. . | 121-9432 | 686-1877 | 236-9256 | 4864 | |
| 8 Apr. (98) | 6 Fri. . | 20 37 1 | 15 Mar. (74) | 3 Tues. . | 9998-6061 | 533-4318 | 206-1023 | 4865 | |
| 8 Apr. (99) | 1 Sun. . | 2 49 10 | 2 Apr. (93) | 2 Mon. . | 33-3485 | 469-5252 | 257-4127 | 4866 | |
| 8 Apr. (98) | 2 Mon. . | 9 1 19 | 22 Mar. (81) | 6 Fri. . | 9909-0713 | 316-6693 | 226-5895 | 4867 | |
| 8 Apr. (98) | 3 Tues. . | 15 13 28 | 11 Mar. (70) | 3 Tues. . | 9784-7041 | 163-9134 | 195-7664 | 4868 | |
| 8 Apr. (98) | 4 Wed. . | 21 25 36 | 30 Mar. (89) | 2 Mon. . | 9819-4766 | 99-9068 | 247-0767 | 4869 | |
| 8 Apr. (99) | 6 Fri. . | 3 37 45 | 19 Mar. (79) | 0 Sat. . | 33-8313 | 983-4426 | 218-9913 | 4870 | |
| 8 Apr. (98) | 0 Sat. . | 9 49 54 | 7 Apr. (97) | 6 Fri. . | 68-5137 | 919-4360 | 270-3017 | 4871 | |
| 8 Apr. (98) | 1 Sun. . | 16 2 3 | 28 Mar. (87) | 4 Wed. . | 282-8686 | 802-9717 | 242-2164 | 4872 | |
| 8 Apr. (98) | 2 Mon. . | 22 14 12 | 17 Mar. (76) | 1 Sun. . | 158-6915 | 650-2158 | 211-3931 | 4873 | |
| 8 Apr. (99) | 4 Wed. . | 4 26 21 | 4 Apr. (95) | 0 Sat. . | 193-2738 | 586-2092 | 262-7035 | 4874 | |
| 8 Apr. (98) | 5 Thur. | 10 38 29 | 25 Mar. (83) | 4 Wed. . | 67-0967 | 433-4533 | 231-8803 | 4875 | |
| 8 Apr. (98) | 6 Fri. . | 16 50 38 | 13 Mar. (72) | 1 Sun. . | 9944-7195 | 290-6973 | 201-0571 | 4876 | |
| 8 Apr. (98) | 0 Sat. . | 23 2 47 | 1 Apr. (91) | 0 Sat. . | 9979-5018 | 216-6908 | 252-3675 | 4877 | |

* From here (inclusive) forward the dates A. D. are New Style.

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4878 | 1699 | 1834 | 1183 | 951-52 | *1776-77 | 30 Durmukha . | 41 Plavaṅga . | ... |
| 4879 | 1700 | 1835 | 1184 | 952-53 | 1777-78 | 31 Hēmalamba . | 42 Kīlaka . | 1 Chaitra . |
| 4880 | 1701 | 1836 | 1185 | 953-54 | 1778-79 | 32 Vilamba . | 43 Saumya . | ... |
| 4881 | 1702 | 1837 | 1186 | 954-55 | 1779-80 | 33 Vikārin . | 44 Sādhāraṇa . | 5 Śrāvapa . |
| 4882 | 1703 | 1838 | 1187 | 955-56 | *1780-81 | 34 Śārvarin . | 45 Virōdhakṛit . | ... |
| 4883 | 1704 | 1839 | 1188 | 956-57 | 1781-82 | 35 Plava . | 46 Paridhāvin . | ... |
| 4884 | 1705 | 1840 | 1189 | 957-58 | 1782-83 | 36 Śubhakṛit . | 47 Pramādin . | 4 Āshāḍha . |
| 4885 | 1706 | 1841 | 1190 | 958-59 | 1783-84 | 37 Śobhana . | 48 Ananda . | ... |
| 4886 | 1707 | 1842 | 1191 | 959-60 | *1784-85 | 38 Krōdhin . | 49 Rākhaṣa . | ... |
| 4887 | 1708 | 1843 | 1192 | 960-61 | 1785-86 | 39 Viśvāvasu . | 50 Anala . | 2 Vaiśākha . |
| 4888 | 1709 | 1844 | 1193 | 961-62 | 1786-87 | 40 Parābhava . | 51 Piṅgala . | ... |
| 4889 | 1710 | 1845 | 1194 | 962-63 | 1787-88 | 41 Plavaṅga . | 52 Kālayukta . | 6 Bhādrapada . |
| 4890 | 1711 | 1846 | 1195 | 963-64 | *1788-89 | 42 Kīlaka . | 53 Siddhārthin . | ... |
| 4891 | 1712 | 1847 | 1196 | 964-65 | 1789-90 | 43 Saumya . | 54 Raudra . | ... |
| 4892 | 1713 | 1848 | 1197 | 965-66 | 1790-91 | 44 Sādhāraṇa . | 55 Durmati . | 5 Śrāvapa . |
| 4893 | 1714 | 1849 | 1198 | 966-67 | 1791-92 | 45 Virōdhakṛit . | 56 Dundubhī . | ... |
| 4894 | 1715 | 1850 | 1199 | 967-68 | *1792-93 | 46 Paridhāvin . | 57 Rudhīrōdgārin . | ... |
| 4895 | 1716 | 1851 | 1200 | 968-69 | 1793-94 | 47 Pramādin . | 58 Raktāksha . | 3 Jyēṣṭha . |
| 4896 | 1717 | 1852 | 1201 | 969-70 | 1794-95 | 48 Ananda . | 59 Krōdhana . | ... |
| 4897 | 1718 | 1853 | 1202 | 970-71 | 1795-96 | 49 Rākhaṣa . | 60 Kṣaya . | { 7 Ākṣina . { 10 Pūṣha (<i>Ksh.</i>) |
| 4898 | 1719 | 1854 | 1203 | 971-72 | *1796-97 | 50 Anala . | 1 Prabhava . | 1 Chaitra . |
| 4899 | 1720 | 1855 | 1204 | 972-73 | 1797-98 | 51 Piṅgala . | 2 Vibhava . | ... |
| 4900 | 1721 | 1856 | 1205 | 973-74 | 1798-99 | 52 Kālayukta . | 3 Śukla . | 5 Śrāvapa . |
| 4901 | 1722 | 1857 | 1206 | 974-75 | 1799-00 | 53 Siddhārthin . | 4 Pramōda . | ... |
| 4902 | 1723 | 1858 | 1207 | 975-76 | 1800-01† | 54 Raudra . | 5 Prajāpatī . | ... |

† The year 1800 A. D. was not a Leap-year.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| 8 Apr. (90) | 2 Mon. . | 5 14 56 | 20 Mar. (80) | 4 Wed. . | 9835-1247 | 63-9348 | 221-5443 | 4878 |
| 8 Apr. (98) | 3 Tues. . | 11 27 5 | 10 Mar. (69) | 2 Mon. . | 99-4795 | 947-4706 | 193-4578 | 4879 |
| 8 Apr. (98) | 4 Wed. . | 17 39 14 | 29 Mar. (88) | 1 Sun. . | 104-1620 | 883-4640 | 244-7693 | 4880 |
| 8 Apr. (98) | 5 Thur. . | 23 51 23 | 19 Mar. (78) | 6 Fri. . | 318-5167 | 706-9907 | 216-6839 | 4881 |
| 8 Apr. (99) | 0 Sat. . | 6 3 31 | 5 Apr. (96) | 4 Wed. . | 14-5672 | 666-7016 | 265-2565 | 4882 |
| 8 Apr. (98) | 1 Sun. . | 12 15 40 | 25 Mar. (84) | 1 Sun. . | 9890-2900 | 513-9455 | 234-4333 | 4883 |
| 8 Apr. (98) | 2 Mon. . | 18 27 49 | 14 Mar. (73) | 5 Thur. . | 9766-0129 | 361-1896 | 203-6101 | 4884 |
| 9 Apr. (99) | 4 Wed. . | 0 39 58 | 2 Apr. (92) | 4 Wed. . | 9900-7952 | 297-1831 | 254-9205 | 4885 |
| 8 Apr. (99) | 5 Thur. . | 6 52 6 | 22 Mar. (82) | 2 Mon. . | 15-9501 | 180-7188 | 226-8350 | 4886 |
| 8 Apr. (98) | 6 Fri. . | 13 4 16 | 11 Mar. (70) | 6 Fri. . | 9890-7729 | 27-9629 | 196-0119 | 4887 |
| 8 Apr. (98) | 0 Sat. . | 19 16 24 | 30 Mar. (89) | 5 Thur. . | 9925-4553 | 903-9563 | 247-3223 | 4888 |
| 9 Apr. (99) | 2 Mon. . | 1 28 33 | 20 Mar. (79) | 3 Tues. . | 139-8101 | 847-4921 | 219-2366 | 4889 |
| 8 Apr. (99) | 3 Tues. . | 7 40 42 | 7 Apr. (98) | 2 Mon. . | 174-4925 | 783-4855 | 270-5472 | 4890 |
| 8 Apr. (98) | 4 Wed. . | 13 52 51 | 27 Mar. (86) | 6 Fri. . | 50-2154 | 630-7295 | 239-7241 | 4891 |
| 8 Apr. (98) | 5 Thur. . | 20 5 0 | 16 Mar. (75) | 3 Tues. . | 9925-9382 | 477-9736 | 208-9000 | 4892 |
| 9 Apr. (99) | 0 Sat. . | 2 17 9 | 4 Apr. (94) | 2 Mon. . | 9960-6206 | 413-9671 | 260-5113 | 4893 |
| 8 Apr. (96) | 1 Sun. . | 8 29 17 | 23 Mar. (83) | 6 Fri. . | 9836-3435 | 261-2112 | 229-3680 | 4894 |
| 8 Apr. (98) | 2 Mon. . | 14 41 26 | 13 Mar. (72) | 4 Wed. . | 50-6982 | 144-7469 | 201-5026 | 4895 |
| 8 Apr. (98) | 3 Tues. . | 20 53 35 | 1 Apr. (91) | 3 Tues. . | 85-3806 | 80-7303 | 252-6121 | 4896 |
| 9 Apr. (99) | 5 Thur. . | 3 5 44 | 21 Mar. (80) | 0 Sat. . | 9961-1035 | 927-9843 | 221-7899 | 4897 |
| 8 Apr. (99) | 6 Fri. . | 9 17 53 | 10 Mar. (69) | 4 Wed. . | 175-4582 | 811-5201 | 193-8033 | 4898 |
| 8 Apr. (98) | 0 Sat. . | 15 30 2 | 29 Mar. (88) | 4 Wed. . | 210-1407 | 747-5135 | 245-0148 | 4899 |
| 8 Apr. (98) | 1 Sun. . | 21 42 10 | 18 Mar. (77) | 1 Sun. . | 85-8635 | 594-7676 | 214-1917 | 4900 |
| 9 Apr. (99) | 3 Tues. . | 3 54 15 | 6 Apr. (96) | 0 Sat. . | 120-5400 | 530-7511 | 265-5021 | 4901 |
| 9 Apr. (99) | 4 Wed. . | 10 6 28 | 26 Mar. (85) | 4 Wed. . | 9996-2688 | 377-9959 | 234-5983 | 4902 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|------------------------------------|----------|----------|---------------------|---------------------|--|
| Kalī. | Śaka. | Chaitrādi Vikrama. | Mōshādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4903 | 1724 | 1859 | 1208 | 976-77 | 1801-02 | 55 Durmati . | 6 Angiras . | 4 Ashāḍha . |
| 4904 | 1725 | 1860 | 1209 | 977-78 | 1802-03 | 56 Dundubhi . | 7 Śrīmukha . | ... |
| 4905 | 1726 | 1861 | 1210 | 978-79 | 1803-04 | 57 Rudhirōdgārin | 8 Bhāva . | ... |
| 4906 | 1727 | 1862 | 1211 | 979-80 | *1804-05 | 58 Raktāksha . | 9 Yuvan . | 2 Vaiśākha . |
| 4907 | 1728 | 1863 | 1212 | 980-81 | 1805-06 | 59 Krōdhana . | 10 Dhātri . | ... |
| 4908 | 1729 | 1864 | 1213 | 981-82 | 1806-07 | 60 Kahaya . | 11 Lévara . | 6 Bhādrapada . |
| 4909 | 1730 | 1865 | 1214 | 982-83 | 1807-08 | 1 Prabhava . | 12 Bahudhānya . | ... |
| 4910 | 1731 | 1866 | 1215 | 983-84 | *1808-09 | 2 Vibhava . | 13 Pramāthin . | ... |
| 4911 | 1732 | 1867 | 1216 | 984-85 | 1809-10 | 3 Śukla . | 14 Vikrama . | 4 Ashāḍha . |
| 4912 | 1733 | 1868 | 1217 | 985-86 | 1810-11 | 4 Pramōda . | 15 Vṛisha . | ... |
| 4913 | 1734 | 1869 | 1218 | 986-87 | 1811-12 | 5 Prajāpati . | 16 Chitrabhānu . | ... |
| 4914 | 1735 | 1870 | 1219 | 987-88 | *1812-13 | 6 Aṅgiras . | 17 Subhānu . | 3 Jyēsthā . |
| 4915 | 1736 | 1871 | 1220 | 988-89 | 1813-14 | 7 Śrīmukha . | 18 Tāraka . | ... |
| 4916 | 1737 | 1872 | 1221 | 989-90 | 1814-15 | 8 Bhāva . | 19 Pārthiva . | { 7 Āsvina 11 Magha (<i>ksh.</i>) |
| 4917 | 1738 | 1873 | 1222 | 990-91 | 1815-16 | 9 Yuvan . | 20 Vyaya . | 1 Chaitra . |
| 4918 | 1739 | 1874 | 1223 | 991-92 | *1816-17 | 10 Dhātri . | 21 Sarvajit . | ... |
| 4919 | 1740 | 1875 | 1224 | 992-93 | 1817-18 | 11 Lévara . | 22 Sarvadhārin . | 5 Śrāvaka . |
| 4920 | 1741 | 1876 | 1225 | 993-94 | 1818-19 | 12 Bahudhānya . | 23 Virōdhin . | ... |
| 4921 | 1742 | 1877 | 1226 | 994-95 | 1819-20 | 13 Pramāthin . | 24 Vikṛita . | ... |
| 4922 | 1743 | 1878 | 1227 | 995-96 | *1820-21 | 14 Vikrama . | 25 Khara . | 3 Jyēsthā . |
| 4923 | 1744 | 1879 | 1228 | 996-97 | 1821-22 | 15 Vṛisha . | 26 Nandana . | ... |
| 4924 | 1745 | 1880 | 1229 | 997-98 | 1822-23 | 16 Chitrabhānu . | 27 Vijaya . | ... |
| 4925 | 1746 | 1881 | 1230 | 998-99 | 1823-24 | 17 Subhānu . | 28 Jaya . | 2 Vaiśākha . |
| 4926 | 1747 | 1882 | 1231 | 999-1000 | *1824-25 | 18 Tāraka . | 29 Manmatha . | ... |
| 4927 | 1748 | 1883 | 1232 | 1000-01 | 1825-26 | 19 Pārthiva . | 30 Durmukha . | 6 Bhādrapada . |

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| COMMENCEMENT OF THE | | | | | | | | | Kali year. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|---------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- sankrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| 9 Apr. (99) | 3 Thur. | 16 18 37 | 15 Mar. (74) | 1 Sun. | 9871-9917 | 225-2391 | 203-7750 | 4903 | |
| 9 Apr. (99) | 6 Fri. | 22 30 46 | 3 Apr. (93) | 0 Sat. | 9900-6740 | 161-2327 | 253-0754 | 4904 | |
| 10 Apr. (100) | 1 Sun. | 4 42 55 | 24 Mar. (83) | 5 Thur. | 121-0289 | 44-7683 | 227-0000 | 4905 | |
| 9 Apr. (100) | 2 Mon. | 10 55 4 | 12 Mar. (72) | 2 Mon. | 9999-7517 | 892-0124 | 196-1769 | 4906 | |
| 9 Apr. (99) | 3 Tues. | 17 7 12 | 31 Mar. (90) | 1 Sun. | 31-4341 | 828-0059 | 247-4872 | 4907 | |
| 9 Apr. (99) | 4 Wed. | 23 19 21 | 21 Mar. (80) | 6 Fri. | 245-7889 | 711-5416 | 219-4018 | 4908 | |
| 10 Apr. (100) | 6 Fri. | 5 31 30 | 9 Apr. (99) | 5 Thur. | 280-4713 | 647-5351 | 270-7122 | 4909 | |
| 9 Apr. (100) | 0 Sat. | 11 43 39 | 28 Mar. (88) | 2 Mon. | 156-1941 | 494-7790 | 239-8891 | 4910 | |
| 9 Apr. (99) | 1 Sun. | 17 55 48 | 17 Mar. (76) | 6 Fri. | 31-9170 | 342-0231 | 209-0658 | 4911 | |
| 10 Apr. (100) | 3 Tues. | 0 7 57 | 4 Apr. (94) | 4 Wed. | 9727-9674 | 241-7150 | 257-6384 | 4912 | |
| 10 Apr. (100) | 4 Wed. | 6 20 5 | 25 Mar. (84) | 2 Mon. | 9942-3223 | 125-2607 | 229-5530 | 4913 | |
| 9 Apr. (100) | 5 Thur. | 12 32 14 | 14 Mar. (74) | 0 Sat. | 156-6770 | 8-7964 | 201-4676 | 4914 | |
| 9 Apr. (99) | 6 Fri. | 18 44 23 | 2 Apr. (92) | 6 Fri. | 191-3594 | 944-7898 | 252-7780 | 4915 | |
| 10 Apr. (100) | 1 Sun. | 0 56 32 | 22 Mar. (81) | 3 Tues. | 67-0823 | 792-0339 | 221-9548 | 4916 | |
| 10 Apr. (100) | 2 Mon. | 7 8 41 | 12 Mar. (71) | 1 Sun. | 281-4370 | 675-5705 | 193-8694 | 4917 | |
| 9 Apr. (100) | 3 Tues. | 13 20 50 | 29 Mar. (89) | 6 Fri. | 9977-4875 | 575-2714 | 242-4421 | 4918 | |
| 9 Apr. (99) | 4 Wed. | 19 32 58 | 18 Mar. (77) | 3 Tues. | 9853-2104 | 422-5154 | 211-6188 | 4919 | |
| 10 Apr. (100) | 6 Fri. | 1 45 7 | 6 Apr. (96) | 2 Mon. | 9887-8928 | 358-5089 | 262-9292 | 4920 | |
| 10 Apr. (100) | 0 Sat. | 7 57 16 | 26 Mar. (85) | 6 Fri. | 9763-6156 | 205-7530 | 232-1060 | 4921 | |
| 9 Apr. (100) | 1 Sun. | 14 9 25 | 15 Mar. (75) | 4 Wed. | 9977-9704 | 89-2887 | 203-9266 | 4922 | |
| 9 Apr. (99) | 2 Mon. | 20 21 34 | 3 Apr. (93) | 3 Tues. | 12-6528 | 25-2822 | 255-3309 | 4923 | |
| 10 Apr. (100) | 4 Wed. | 2 33 43 | 24 Mar. (83) | 1 Sun. | 227-0076 | 908-8179 | 227-2456 | 4924 | |
| 10 Apr. (100) | 5 Thur. | 8 45 52 | 13 Mar. (72) | 5 Thur. | 102-7304 | 756-0619 | 196-4224 | 4925 | |
| 9 Apr. (100) | 6 Fri. | 14 58 0 | 31 Mar. (91) | 4 Wed. | 137-4129 | 692-0654 | 247-7328 | 4926 | |
| 9 Apr. (99) | 0 Sat. | 21 10 9 | 20 Mar. (79) | 1 Sun. | 13-1357 | 539-2994 | 216-9066 | 4927 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|-----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādī (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4928 | 1749 | 1884 | 1233 | 1001-02 | 1826-27 | 20 Vyaya . . | 31 Hēmalamba . . | ... |
| 4929 | 1750 | 1885 | 1234 | 1002-03 | 1827-28 | 21 Sarvajit . . | 32 Vilamba . . | ... |
| 4930 | 1751 | 1886 | 1235 | 1003-04 | *1828-29 | 22 Sarvadhārin . . | 33 Vikārin . . | 4 Āshāḍha . . |
| 4931 | 1752 | 1887 | 1236 | 1004-05 | 1829-30 | 23 Virōdhin . . | 34 Sārvarin . . | ... |
| 4932 | 1753 | 1888 | 1237 | 1005-06 | 1830-31 | 24 Vikṛita . . | 35 Plava . . | ... |
| 4933 | 1754 | 1889 | 1238 | 1006-07 | 1831-32 | 25 Khara . . | 36 Subhākṛit . . | 3 Jyēṣṭha . . |
| 4934 | 1755 | 1890 | 1239 | 1007-08 | *1832-33 | 26 Nandana . . | 37 Sōbhana . . | ... |
| 4935 | 1756 | 1891 | 1240 | 1008-09 | 1833-34 | 27 Vijaya . . | 38 Krōdhin . . | 7 Āśvina . . |
| 4936 | 1757 | 1892 | 1241 | 1009-10 | 1834-35 | 28 Jaya . . | 39 Viśvāvasu . . | ... |
| 4937 | 1758 | 1893 | 1242 | 1010-11 | 1835-36 | 29 Manmatha . . | 40 Parābhava . . | ... |
| 4938 | 1759 | 1894 | 1243 | 1011-12 | *1836-37 | 30 Durmukha . . | 41 Plavaṅga . . | 5 Śrāvana . . |
| 4939 | 1760 | 1895 | 1244 | 1012-13 | 1837-38 | 31 Hēmalamba . . | 42 Kilaka . . | ... |
| 4940 | 1761 | 1896 | 1245 | 1013-14 | 1838-39 | 32 Vilamba . . | 43 Saumya . . | ... |
| 4941 | 1762 | 1897 | 1246 | 1014-15 | 1839-40 | 33 Vikārin . . | 44 Sādhārāṇa . . | 3 Jyēṣṭha . . |
| 4942 | 1763 | 1898 | 1247 | 1015-16 | *1840-41 | 34 Sārvarin . . | 45 Virōdhakṛit . . | ... |
| 4943 | 1764 | 1899 | 1248 | 1016-17 | 1841-42 | 35 Plava . . | 46 Paridhāvin† . . | ... |
| 4944 | 1765 | 1900 | 1249 | 1017-18 | 1842-43 | 36 Subhākṛit . . | 48 Ananda . . | 2 Vaiśākha . . |
| 4945 | 1766 | 1901 | 1250 | 1018-19 | 1843-44 | 37 Sōbhana . . | 49 Rākhaṇa . . | ... |
| 4946 | 1767 | 1902 | 1251 | 1019-20 | *1844-45 | 38 Krōdhin . . | 50 Anala . . | 6 Bhādrapada . . |
| 4947 | 1768 | 1903 | 1252 | 1020-21 | 1845-46 | 39 Viśvāvasu . . | 51 Piṅgala . . | ... |
| 4948 | 1769 | 1904 | 1253 | 1021-22 | 1846-47 | 40 Parābhava . . | 52 Kālayukta . . | ... |
| 4949 | 1770 | 1905 | 1254 | 1022-23 | 1847-48 | 41 Plavaṅga . . | 53 Siddhārthā . . | 4 Āshāḍha . . |
| 4950 | 1771 | 1906 | 1255 | 1023-24 | *1848-49 | 42 Kilaka . . | 54 Raudra . . | ... |
| 4951 | 1772 | 1907 | 1256 | 1024-25 | 1849-50 | 43 Saumya . . | 55 Durmatī . . | ... |
| 4952 | 1773 | 1908 | 1257 | 1025-26 | 1850-51 | 44 Sādhārāṇa . . | 56 Daudubhī . . | 3 Jyēṣṭha . . |

† 47 Pramādin was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| 10 Apr. (100) | 2 Mon. . | 3 22 18 | 8 Apr. (98) | 0 Sat. . | 47-8181 | 475-2929 | 268-2199 | 4928 |
| 10 Apr. (100) | 3 Tues. . | 9 34 27 | 28 Mar. (87) | 4 Wed. . | 9923-5409 | 322-5370 | 237-3968 | 4929 |
| 9 Apr. (100) | 4 Wed. . | 15 46 36 | 16 Mar. (76) | 1 Sun. . | 9799-2638 | 169-7810 | 209-5736 | 4930 |
| 9 Apr. (99) | 5 Thur. . | 21 58 45 | 4 Apr. (94) | 0 Sat. . | 9833-9461 | 105-7745 | 257-8840 | 4931 |
| 10 Apr. (100) | 0 Sat. . | 4 10 53 | 25 Mar. (84) | 5 Thur. . | 48-3010 | 989-3102 | 229-7985 | 4932 |
| 10 Apr. (100) | 1 Sun. . | 10 23 2 | 15 Mar. (74) | 3 Tues. . | 262-6558 | 872-8459 | 201-7131 | 4933 |
| 9 Apr. (100) | 2 Mon. . | 16 35 11 | 2 Apr. (93) | 2 Mon. . | 297-3382 | 808-8394 | 253-9236 | 4934 |
| 9 Apr. (99) | 3 Tues. . | 22 47 20 | 22 Mar. (81) | 6 Fri. . | 173-0610 | 656-9834 | 222-2004 | 4935 |
| 10 Apr. (100) | 5 Thur. . | 4 59 29 | 19 Apr. (100) | 5 Thur. . | 207-7434 | 592-0769 | 273-6107 | 4936 |
| 10 Apr. (100) | 6 Fri. . | 11 11 38 | 30 Mar. (89) | 2 Mon. . | 83-4663 | 439-3209 | 242-6870 | 4937 |
| 9 Apr. (100) | 0 Sat. . | 17 23 46 | 18 Mar. (78) | 6 Fri. . | 9939-1892 | 286-5650 | 211-8644 | 4938 |
| 9 Apr. (99) | 1 Sun. . | 23 35 55 | 9 Apr. (96) | 5 Thur. . | 9993-8715 | 222-5584 | 263-1748 | 4939 |
| 10 Apr. (100) | 3 Tues. . | 5 48 4 | 26 Mar. (85) | 2 Mon. . | 9869-6944 | 69-8025 | 232-3516 | 4940 |
| 10 Apr. (100) | 4 Wed. . | 12 0 13 | 16 Mar. (75) | 0 Sat. . | 83-9492 | 953-3382 | 204-2661 | 4941 |
| 9 Apr. (100) | 5 Thur. . | 18 12 22 | 3 Apr. (94) | 6 Fri. . | 118-6315 | 889-3316 | 255-5766 | 4942 |
| 10 Apr. (100) | 0 Sat. . | 0 24 31 | 23 Mar. (82) | 3 Tues. . | 9994-3544 | 736-5758 | 224-7533 | 4943 |
| 10 Apr. (100) | 1 Sun. . | 6 36 39 | 13 Mar. (72) | 1 Sun. . | 208-7002 | 620-1114 | 196-6680 | 4944 |
| 10 Apr. (100) | 2 Mon. . | 12 48 48 | 31 Mar. (90) | 6 Fri. . | 9994-7597 | 519-8132 | 245-2406 | 4945 |
| 9 Apr. (100) | 3 Tues. . | 19 0 57 | 19 Mar. (79) | 3 Tues. . | 9770-4824 | 360-0573 | 214-4173 | 4946 |
| 10 Apr. (100) | 5 Thur. . | 1 13 6 | 7 Apr. (97) | 2 Mon. . | 9815-1649 | 303-0508 | 265-7278 | 4947 |
| 10 Apr. (100) | 6 Fri. . | 7 25 15 | 28 Mar. (87) | 0 Sat. . | 29-5197 | 186-5866 | 237-8424 | 4948 |
| 10 Apr. (100) | 0 Sat. . | 13 37 24 | 17 Mar. (76) | 4 Wed. . | 9905-2425 | 35-8305 | 206-8191 | 4949 |
| 9 Apr. (100) | 1 Sun. . | 19 49 33 | 4 Apr. (95) | 3 Tues. . | 9939-9249 | 969-8440 | 257-1295 | 4950 |
| 10 Apr. (100) | 3 Tues. . | 2 1 41 | 25 Mar. (84) | 1 Sun. . | 134-2798 | 853-3597 | 230-0441 | 4951 |
| 10 Apr. (100) | 4 Wed. . | 8 13 50 | 14 Mar. (73) | 5 Thur. . | 30-0626 | 700-6037 | 199-2210 | 4952 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>ksh.</i>) lunar months. |
|------------------|-------|--------------------|-----------------------------------|---------|----------|---------------------------|-------------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēśādi (solar) year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4953 | 1774 | 1909 | 1258 | 1026-27 | 1851-52 | 45 Virōdhakrit . | 57 <i>Rudhīrōdgārīn</i> | ... |
| 4954 | 1775 | 1910 | 1259 | 1027-28 | *1852-53 | 46 Paridhāvin . | 58 <i>Raktāksha</i> . | 7 Āsvina . |
| 4955 | 1776 | 1911 | 1260 | 1028-29 | 1853-54 | 47 Pramādin . | 59 <i>Krōdhana</i> . | ... |
| 4956 | 1777 | 1912 | 1261 | 1029-30 | 1854-55 | 48 Ānanda . | 60 Kshaya . | ... |
| 4957 | 1778 | 1913 | 1262 | 1030-31 | 1855-56 | 49 Rākshasa . | 1 Prabhava . | 5 Śrāvapa . |
| 4958 | 1779 | 1914 | 1263 | 1031-32 | *1856-57 | 50 Anala . | 2 Vibhava . | ... |
| 4959 | 1780 | 1915 | 1264 | 1032-33 | 1857-58 | 51 Piṅgala . | 3 Śukla . | ... |
| 4960 | 1781 | 1916 | 1265 | 1033-34 | 1858-59 | 52 Kālayukta . | 4 Pramōda . | 3 Jyēṣṭha . |
| 4961 | 1782 | 1917 | 1266 | 1034-35 | 1859-60 | 53 Siddhārthīn . | 5 Prajāpati . | ... |
| 4962 | 1783 | 1918 | 1267 | 1035-36 | *1860-61 | 54 Raudra . | 6 Aṅgiras . | ... |
| 4963 | 1784 | 1919 | 1268 | 1036-37 | 1861-62 | 55 Durmati . | 7 Śrīmukha . | 2 Vaiśakha . |
| 4964 | 1785 | 1920 | 1269 | 1037-38 | 1862-63 | 56 Dundubhī . | 8 Bhāva . | ... |
| 4965 | 1786 | 1921 | 1270 | 1038-39 | 1863-64 | 57 <i>Rudhīrōdgārīn</i> . | 9 Yuvan . | 6 Bhādrapada . |
| 4966 | 1787 | 1922 | 1271 | 1039-40 | *1864-65 | 58 Raktāksha . | 10 Dhātri . | ... |
| 4967 | 1788 | 1923 | 1272 | 1040-41 | 1865-66 | 59 Krōdhana . | 11 Īvara . | ... |
| 4968 | 1789 | 1924 | 1273 | 1041-42 | 1866-67 | 60 Kshaya . | 12 Bahudhānya . | 4 Ashāḍha . |
| 4969 | 1790 | 1925 | 1274 | 1042-43 | 1867-68 | 1 Prabhava . | 13 Pramāthīn . | ... |
| 4970 | 1791 | 1926 | 1275 | 1043-44 | *1868-69 | 2 Vibhava . | 14 Vikrama . | ... |
| 4971 | 1792 | 1927 | 1276 | 1044-45 | 1869-70 | 3 Śukla . | 15 Vriha . | 3 Jyēṣṭha . |
| 4972 | 1793 | 1928 | 1277 | 1045-46 | 1870-71 | 4 Pramōda . | 16 Chitrabhānu . | ... |
| 4973 | 1794 | 1929 | 1278 | 1046-47 | 1871-72 | 5 Prajāpati . | 17 Subhānu . | 7 Āsvina . |
| 4974 | 1795 | 1930 | 1279 | 1047-48 | *1872-73 | 6 Aṅgiras . | 18 Tāraka . | ... |
| 4975 | 1796 | 1931 | 1280 | 1048-49 | 1873-74 | 7 Śrīmukha . | 19 Pārthiva . | ... |
| 4976 | 1797 | 1932 | 1281 | 1049-50 | 1874-75 | 8 Bhāva . | 20 Vyaya . | 5 Śrāvapa . |
| 4977 | 1798 | 1933 | 1282 | 1050-51 | 1875-76 | 9 Yuvan . | 21 Sarvajit . | ... |

LX—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 10 Apr. (100) | 5 Thur. | 14 25 59 | 2 Apr. (92) | 4 Wed. | 64-6849 | 636-5972 | 250-5313 | 4953 |
| 9 Apr. (100) | 6 Fri. | 20 38 8 | 21 Mar. (81) | 1 Sun. | 9940-4078 | 483-8413 | 219-7081 | 4954 |
| 10 Apr. (100) | 1 Sun. | 2 50 17 | 9 Apr. (99) | 0 Sat. | 9975-0902 | 419-8348 | 271-0185 | 4955 |
| 10 Apr. (100) | 2 Mon. | 9 2 26 | 29 Mar. (88) | 4 Wed. | 9850-8130 | 267-0788 | 240-1954 | 4956 |
| 10 Apr. (100) | 3 Tues. | 15 13 34 | 19 Mar. (78) | 2 Mon. | 65-1679 | 150-6145 | 212-1099 | 4957 |
| 9 Apr. (100) | 4 Wed. | 21 26 43 | 6 Apr. (97) | 1 Sun. | 99-8503 | 86-6079 | 263-4203 | 4958 |
| 10 Apr. (100) | 6 Fri. | 3 38 52 | 26 Mar. (85) | 5 Thur. | 9975-5732 | 933-8520 | 232-5971 | 4959 |
| 10 Apr. (100) | 0 Sat. | 9 51 1 | 16 Mar. (75) | 3 Tues. | 189-9279 | 817-3877 | 204-5117 | 4960 |
| 10 Apr. (100) | 1 Sun. | 16 3 10 | 4 Apr. (94) | 2 Mon. | 224-6103 | 753-3812 | 255-8221 | 4961 |
| 9 Apr. (100) | 2 Mon. | 22 15 19 | 23 Mar. (83) | 6 Fri. | 100-3332 | 600-6253 | 224-9988 | 4962 |
| 10 Apr. (100) | 4 Wed. | 4 27 27 | 12 Mar. (71) | 3 Tues. | 9976-0559 | 447-8683 | 194-1757 | 4963 |
| 10 Apr. (100) | 5 Thur. | 10 39 36 | 31 Mar. (60) | 2 Mon. | 19-7384 | 383-8627 | 245-4861 | 4964 |
| 10 Apr. (100) | 6 Fri. | 16 51 45 | 20 Mar. (79) | 6 Fri. | 9886-4612 | 231-1968 | 214-9629 | 4965 |
| 9 Apr. (100) | 0 Sat. | 23 3 54 | 7 Apr. (98) | 5 Thur. | 9921-1437 | 167-1008 | 265-9733 | 4966 |
| 10 Apr. (100) | 2 Mon. | 5 16 3 | 28 Mar. (87) | 3 Tues. | 125-4984 | 50-6350 | 237-8879 | 4967 |
| 10 Apr. (100) | 3 Tues. | 14 28 12 | 17 Mar. (76) | 0 Sat. | 11-2213 | 898-8801 | 207-0647 | 4968 |
| 10 Apr. (100) | 4 Wed. | 17 40 20 | 5 Apr. (95) | 6 Fri. | 45-9037 | 833-8735 | 258-3751 | 4969 |
| 9 Apr. (100) | 5 Thur. | 23 52 29 | 25 Mar. (85) | 4 Wed. | 260-2585 | 717-4093 | 230-2896 | 4970 |
| 10 Apr. (100) | 0 Sat. | 6 4 38 | 14 Mar. (73) | 1 Sun. | 135-0813 | 564-6532 | 199-4665 | 4971 |
| 10 Apr. (100) | 1 Sun. | 12 16 47 | 2 Apr. (92) | 0 Sat. | 170-6639 | 596-6467 | 250-7769 | 4972 |
| 10 Apr. (100) | 2 Mon. | 18 28 56 | 22 Mar. (81) | 4 Wed. | 49-3806 | 347-8908 | 219-9337 | 4973 |
| 10 Apr. (101) | 4 Wed. | 0 41 5 | 8 Apr. (99) | 2 Mon. | 9742-4379 | 247-5926 | 268-5262 | 4974 |
| 10 Apr. (100) | 5 Thur. | 6 53 14 | 29 Mar. (88) | 0 Sat. | 9936-7918 | 131-1253 | 240-4409 | 4975 |
| 10 Apr. (100) | 6 Fri. | 13 5 22 | 19 Mar. (78) | 5 Thur. | 171-1467 | 14-6649 | 212-3355 | 4976 |
| 10 Apr. (100) | 0 Sat. | 19 17 31 | 7 Apr. (97) | 4 Wed. | 205-8290 | 950-6575 | 263-6659 | 4977 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated and suppressed (<i>lek</i> .) lunar months. |
|------------------|-------|--------------------|------------------------------------|---------|-----------|----------------------|----------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi (solar) year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4978 | 1799 | 1934 | 1283 | 1031.52 | *1876.77 | 10 Dhātṛi . . . | 22 Sarvadhārin . . . | ... |
| 4979 | 1800 | 1935 | 1284 | 1032.53 | 1877.78 | 11 Īvara . . . | 23 Virōdhin . . . | 3 Jyēsthā . . . |
| 4980 | 1801 | 1936 | 1285 | 1033.54 | 1878.79 | 12 Bahudhānya . . . | 24 Vikṛita . . . | ... |
| 4981 | 1802 | 1937 | 1286 | 1034.55 | 1879.80 | 13 Pramāthā . . . | 25 Khara . . . | ... |
| 4982 | 1803 | 1938 | 1287 | 1035.56 | *1880.81 | 14 Vikrama . . . | 26 Nandana . . . | 1 Chaitra . . . |
| 4983 | 1804 | 1939 | 1288 | 1036.57 | 1881.82 | 15 Vrīṣa . . . | 27 Vijaya . . . | ... |
| 4984 | 1805 | 1940 | 1289 | 1037.58 | 1882.83 | 16 Chitrabhānu . . . | 28 Jāya . . . | 5 Śrāvāṇa . . . |
| 4985 | 1806 | 1941 | 1290 | 1038.59 | 1883.84 | 17 Subhānu . . . | 29 Manmatha . . . | ... |
| 4986 | 1807 | 1942 | 1291 | 1039.60 | *1884.85 | 18 Tārā . . . | 30 Durmukha . . . | ... |
| 4977 | 1808 | 1943 | 1292 | 1040.61 | 1885.86 | 19 Pārthiva . . . | 31 Hēmalamba . . . | 4 Āshāḍha . . . |
| 4988 | 1809 | 1944 | 1293 | 1041.62 | 1886.87 | 20 Vyaya . . . | 32 Vilamba . . . | ... |
| 4989 | 1810 | 1945 | 1294 | 1042.63 | 1887.88 | 21 Sarvajit . . . | 33 Vikārin . . . | ... |
| 4990 | 1811 | 1946 | 1295 | 1043.64 | *1888.89 | 22 Sarvadhārin . . . | 34 Śārvarin . . . | 2 Vaiśākha . . . |
| 4991 | 1812 | 1947 | 1296 | 1044.65 | 1889.90 | 23 Virōdhin . . . | 35 Plava . . . | ... |
| 4992 | 1813 | 1948 | 1297 | 1045.66 | 1890.91 | 24 Vikṛita . . . | 36 Subhakti . . . | 7 Āvina . . . |
| 4993 | 1814 | 1949 | 1298 | 1046.67 | 1891.92 | 25 Khara . . . | 37 Śōbhana . . . | ... |
| 4994 | 1815 | 1950 | 1299 | 1047.68 | *1892.93 | 26 Nandana . . . | 38 Krōdhin . . . | ... |
| 4995 | 1816 | 1951 | 1300 | 1048.69 | 1893.94 | 27 Vijaya . . . | 39 Vīśvavasu . . . | 5 Śrāvāṇa . . . |
| 4996 | 1817 | 1952 | 1301 | 1049.70 | 1894.95 | 28 Jāya . . . | 40 Parābhava . . . | ... |
| 4997 | 1818 | 1953 | 1302 | 1050.71 | 1895.96 | 29 Manmatha . . . | 41 Plavaṅga . . . | ... |
| 4998 | 1819 | 1954 | 1303 | 1051.72 | *1896.97 | 30 Durmukha . . . | 42 Kīlaka . . . | 3 Jyēsthā . . . |
| 4999 | 1820 | 1955 | 1304 | 1052.73 | 1897.98 | 31 Hēmalamba . . . | 43 Saumya . . . | ... |
| 5000 | 1821 | 1956 | 1305 | 1053.74 | 1898.99 | 32 Vilamba . . . | 44 Śādhārāṇa . . . | ... |
| 5001 | 1822 | 1957 | 1306 | 1054.75 | 1899-1900 | 33 Vikārin . . . | 45 Virōdhakti . . . | 1 Chaitra . . . |
| 5002 | 1823 | 1958 | 1307 | 1055.76 | 1900-01* | 34 Śārvarin . . . | 46 Pārthivāvin . . . | ... |

* The year A. D. 1900 was not a Leap-year.

LX—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA (UKLA 1 ENDS)). | | | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-sankranti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| 10 Apr. (101) | 2 Mon. | 1 29 49 | 26 Mar. (86) | 1 Sun. | 81-5519 | 797-9015 | 232-8426 | 4978 |
| 10 Apr. (100) | 3 Tues. | 7 41 49 | 16 Mar. (75) | 6 Fri. | 205-0067 | 681-4372 | 205-7472 | 4979 |
| 10 Apr. (100) | 4 Wed. | 13 53 58 | 3 Apr. (93) | 4 Wed. | 9991-9571 | 581-1391 | 253-3299 | 4980 |
| 10 Apr. (100) | 5 Thur. | 20 6 7 | 23 Mar. (82) | 1 Sun. | 9807-6799 | 428-3831 | 222-5067 | 4981 |
| 10 Apr. (101) | 6 Sat. | 2 18 15 | 11 Mar. (71) | 5 Thur. | 9743-4027 | 285-6272 | 191-6834 | 4982 |
| 10 Apr. (100) | 1 Sun. | 8 30 24 | 30 Mar. (89) | 4 Wed. | 9978-0852 | 211-6206 | 242-9939 | 4983 |
| 10 Apr. (100) | 2 Mon. | 14 42 33 | 20 Mar. (79) | 2 Mon. | 9962-4400 | 95-1563 | 214-9085 | 4984 |
| 10 Apr. (100) | 3 Tues. | 20 54 42 | 8 Apr. (98) | 1 Sun. | 27-1224 | 31-1498 | 266-2189 | 4985 |
| 10 Apr. (101) | 5 Thur. | 3 6 51 | 28 Mar. (88) | 6 Fri. | 241-4772 | 914-6855 | 238-1334 | 4986 |
| 10 Apr. (100) | 6 Fri. | 9 19 0 | 17 Mar. (76) | 3 Tues. | 115-2001 | 761-9296 | 207-3102 | 4987 |
| 10 Apr. (100) | 6 Sat. | 15 30 8 | 5 Apr. (95) | 2 Mon. | 151-8824 | 697-9230 | 258-6207 | 4988 |
| 10 Apr. (100) | 1 Sun. | 21 42 17 | 25 Mar. (84) | 6 Fri. | 27-6053 | 545-1671 | 227-7974 | 4989 |
| 10 Apr. (101) | 3 Tues. | 3 54 26 | 13 Mar. (73) | 3 Tues. | 9903-3281 | 392-4111 | 196-9742 | 4990 |
| 10 Apr. (100) | 4 Wed. | 10 6 35 | 1 Apr. (91) | 2 Mon. | 9938-6196 | 328-4046 | 248-2846 | 4991 |
| 10 Apr. (100) | 5 Thur. | 16 19 44 | 21 Mar. (80) | 6 Fri. | 9813-7323 | 175-6487 | 218-4615 | 4992 |
| 10 Apr. (100) | 6 Fri. | 22 31 53 | 9 Apr. (99) | 5 Thur. | 9848-4158 | 111-6421 | 268-7718 | 4993 |
| 10 Apr. (101) | 1 Sun. | 4 44 1 | 29 Mar. (89) | 3 Tues. | 62-7766 | 995-1778 | 210-6864 | 4994 |
| 10 Apr. (100) | 2 Mon. | 10 56 10 | 19 Mar. (78) | 1 Sun. | 277-1254 | 878-7136 | 212-6010 | 4995 |
| 10 Apr. (100) | 3 Tues. | 17 18 19 | 7 Apr. (97) | 6 Sat. | 311-8078 | 814-7070 | 263-9115 | 4996 |
| 10 Apr. (100) | 4 Wed. | 23 26 28 | 27 Mar. (86) | 4 Wed. | 187-5397 | 661-9510 | 293-0882 | 4997 |
| 10 Apr. (101) | 6 Fri. | 5 32 37 | 15 Mar. (75) | 1 Sun. | 63-2537 | 599-1951 | 292-2640 | 4998 |
| 10 Apr. (100) | 6 Sat. | 11 44 46 | 3 Apr. (93) | 6 Sat. | 97-9358 | 445-1886 | 253-5754 | 4999 |
| 10 Apr. (100) | 1 Sun. | 17 56 55 | 23 Mar. (82) | 4 Wed. | 9972-6587 | 292-4327 | 252-7522 | 5000 |
| 11 Apr. (101) | 3 Tues. | 0 9 3 | 12 Mar. (71) | 1 Sun. | 9849-3815 | 139-6767 | 191-9290 | 5001 |
| 11 Apr. (101) | 4 Wed. | 6 21 12 | 31 Mar. (80) | 6 Sat. | 9884-0640 | 75-6701 | 211-1589 | 5002 |

THE FIRST ARYA-SIDDHANTA

THE "ARYABHATĪYA," OR "LĀGHU ARYA-SIDDHANTA", OF ARYABHATA, A.D. 499.

WORKING TABLES FOR CALCULATION BY THE TRUE, OR APPARENT,
MOTIONS OF SUN AND MOON.

(Previously published in *Epigraphia Indica*, Vol. XVI, pp. 160 to 221.)

286. My last article provided working Tables for verifying dates according to the requirements of the *Siddhanta-Sirāmaṇi* on the basis of the "true" or apparent motions of the sun and moon; the present one provides similar Tables for the *First Ārya-Siddhanta*. These Tables are framed so as to correspond to those published in the *Indian Calendar*, which, for luni-solar computation, generally followed the *Sārya-Siddhanta*.

No pains have been spared to render the information that follows scientifically correct. But we do not yet know how far, or in what tracts or in what periods, the by-gone framers of local almanacs adhered strictly to rule; or used other sets of Tables for their guidance; or worked by whole numbers alone, discarding fractions; or made their calculations in true or apparent time instead of, as in these Tables, in mean or clock time. We have, moreover, as yet no definite information as to how late a date calculations were made by the sun's and moon's mean movements as opposed to their true or apparent movements; nor do we know with any certainty the boundaries of the tracts within which the different rules governing the civil beginnings of solar months were adhered to (*Ind. Calendar*, § 28). Such matters are problems of the future, only to be solved after protracted enquiry and investigation. Dewan Bahadur L. D. Swamikannu Pillai gives it as his opinion (*Indian Chronology*, p. 70, § 169) that, while the *Ārya-Siddhanta* was used for solar computation, the authors of South-Indian pañchāṅgs carried out their lunar calculations for the tithi, nakshatra, etc., by *Sārya-Siddhanta* rule.

287. It is easy to understand how dates of documents, the details of which dates depend on the position of sun and moon, must often differ when calculated by different authorities. Taking only the *Ārya-* and *Sārya-Siddhantas* into consideration, it will be seen by Table A at the end of the text (p. 248 below) that in 142 years out of the 1900 with which the main Table LXI is concerned there were radical differences. In 95 of these years the saṁvatsara cycle-name of the whole year was different; in 39 years the intercalation and suppression of lunar months were different; and the day on which the luni-solar year began was different in 21 years.

Consider the year A.D. 1418-19, for instance, or Saka 1340 expired. This year was, according to the northern system of nomenclature, called "Viśvāvasu" by the followers of the *Ārya-* but "Kṛddhi" by those of the *Sārya-Siddhanta*. In the same year there was, by the *Ārya-Siddhanta*, a suppression of the lunar month Māgha and an intercalation of Phālguna, while by the *Sārya-Siddhanta* there was none such; so that a date correctly expressed in *Ārya-Siddhanta* reckoning in that year would seem entirely inaccurate when tested by *Sārya-Siddhanta* Tables.

ARRANGEMENTS OF THE TABLES.

288. The principal working Tables for computation of dates expressed in *First Ārya-Siddhanta* reckoning are Tables LXI to LXXI below. Tables LXI to LXX are disposed so as to correspond in rotation with Tables I to X of the "*Indian Calendar*," and have been framed I.

similar manner. This arrangement is adopted for the convenience of those who, during the last twenty-five years, have become accustomed to the processes of that publication.

| | |
|-----------|---|
| Table LXI | corresponds to Table I, " <i>Indian Calendar</i> ." |
| " LXII | " " " II, Part II, " <i>Indian Calendar</i> ." |
| " LXIII-A | " " " III, Part I, " " |
| " LXIII-B | " " " " Part II, " " |

[This Table is framed in a similar manner to Table XVIII-A, "*Indian Chronography*," which it is intended to supersede.]

| | |
|------------|--|
| Table LXIV | corresponds to Table IV, " <i>Indian Calendar</i> ." |
| " LXV | " " " V, " " |
| " LXVI | " " " VI, " " |
| " LXVII | " " " VII, " " |

[Tables LXVI-A, LXVII-A give closer details than do Tables LXVI, LXVII, and are to be used for very accurate calculation in doubtful cases.]

| | |
|--------------|--|
| Table LXVIII | corresponds to Table VIII, " <i>Indian Calendar</i> ." |
| " LXIX | " " " IX, " " |
| " LXX | " " " X, " " |

Table LXXI is taken from Tables XLI-A and B, "*Indian Chronography*" (pp. 176, 177). It enables the week-day corresponding to the Hindu date under examination to be determined according to European computation.

Then follow three Tables by which the details given in the main Table LXI have been calculated. These are Table LXXII, which fixes the values of "*a*", "*b*", "*c*" (mean distance of moon from sun, moon's mean anom., sun's mean anom.) at the beginning of the centuries concerned; Table LXXIII which gives the same information for the beginnings of odd years of centuries; and Table LXXIV, which provides, in combination with Tables LXXII and LXXIII, an easy method of arriving at the values of "*a*", "*b*", "*c*", or the mean positions of sun and moon at mean sunrise on the first civil day of each luni-solar year. The system of work is the same as that of Prof. Jacobi.

Full particulars of the moon's equation of the centre will be found in the last Table LXXV.

ELEMENTS OF THE FIRST ĀRYA-SIDDHĀNTA.

289. This work was composed by Āryabhaṭa at Kusumapura in A.D. 499, or the year 3600 (expired) of the Kaliyuga. About A.D. 638 a treatise called the *Dhī-vṛiddhida* was written by Lalla, who introduced a *bija*, or correction, affecting three of the principal elements of the Siddhānta. He seems to have reduced by about 10' in a century the moon's increase in her mean distance from mean sun (our "*a*"); and he added about 36' in a century to the moon's mean anomaly (our "*b*"); his third correction had reference to the planet Jupiter, with which at present we are not concerned. He did not make any change in the sun's mean anomaly (our "*c*"). The *Karaṇa-prakāśa*, of date A.D. 1092, an authority largely used in Southern India, is based on Āryabhaṭa's *Siddhānta* as amended by Lalla.

¹Because of this intentional correspondence the years of Indian eras quoted in cols. 1 to 4 are concurrent years, as in the "*Indian Calendar*."

The Tables given below, which deal with the period A.D. 890-900 (K.Y. 4000 expired) A.D. 1900-01 (K.Y. 5001 expired), include Lalla's corrections.

290. (i) The length of the sidereal solar year, according to the *Ārya-Siddhānta*, is 365·2586805 days, or 365^d 6^h 12^m 30^s.

(ii) Sines of angles are the same as those of the *Sārya-Siddhānta*, based on a radius of (sin. 90° =) 3438'. The 24 base sines and equations of the sun's centre are given in my Table XLVII above. Those of the moon's centre in Table LXXV below.

(iii) For the sun's mean motion per day, hour, minute and second, see Table XLIV above.

(iv) The circumference of the sun's epicycle is 13° 30'; that of the moon 31° 30'. There is no contraction of the epicycle in either case. *Jacobi, Epig. Ind., Vol. I, p. 441.*

(v) There is no shift of the sun's apsis. The longitude of his perigee-point is always 258°; apogee 78°. In ten-thousandths of the circle the perigee is 7166·6.

(vi) The sun's equation of the centre at the moment of true Mēsha-saṁkrānti in every year, i.e. the moment when the true sun reaches celestial longitude 0°, is, according to Dr. Schram's calculation, 2° 6' 57"·323494885, or, in ten-thousandths of circle, 58·775644170¹; the sun's mean longitude at the same moment being 357° 53' 2"·676505115, or, in ten-thousandths of circle, 9941·224355830; and his mean anomaly 99° 53' 2"·676505115, or, in ten-thousandths of circle, 2774·557689163.

(vii) For the sun's mean and true long. for every consecutive 24-hour period measured from the same moment (true Mēsha-saṁkrānti) readers are referred to Table XLVIII-A above.

(viii) The sun's equation of the centre (*see above, Table XLVII*) is obtained by the formula $\frac{3}{80} \sin. a$. For² sin. eqn. = $\frac{\text{minutes in epicycle}}{\text{minutes in orbit}} \times \sin. a$, where a is the sun's mean anom.; and here the minutes in the epicycle are 810', the circumference being 13° 30' and those of the orbit are 21600' (360°). Hence sin. eqn. = $\frac{810}{21600} \sin. a$, or $\frac{3}{80} \sin. a$. In all equations of the sun's centre, the angle being less than 3° 45', the eqn. is the same as the sin. eqn. (*below, § 294 ii*).

(ix) The moon's equation of the centre (*below, Table LXXV*) is obtained by a similar proportion. The circumference of the epicycle being 31° 30' or 1890', the working formula is sin. eqn. = $\frac{1890'}{21600} \sin. a$, or $\frac{7}{80} \sin. a$. In this case, however, for all angles in the quadrant lying between 3° 45' and 7° 30', the equation does not equal the sin. eqn. The process for obtaining the former from the latter is fully set forth in § 294 below.

(x) The *śodhya*, or time-equivalent of the equation of the centre—in other words the interval of time between the moments of the true sun reaching long. 0° (true Mēsha-saṁkrānti) and mean sun reaching the same point (mean Mēsha-saṁkrānti)—is calculated by Dr. Schram as 2·146831 days, or 2^d 3^h 31^m 26^s·1984. This differs a little from the accepted Hindu valuation 2^d 3^h 32^m 30^s. As the latter is believed to have been always taken in India as the śodhya value according to the *First Ārya-Siddhānta*, it is the value adopted in the present work.

¹ M. de Ries has worked this out quite independently, and his calculation agrees with that of Dr. Schram as far as the 6th decimal.

² Above, p. 54, §§ 231-232; *Jacobi, Epig. Ind., Vol. I, p. 441.*

(xi) According to this *Siddhānta* the Kaliyuga era began, or in other words K.Y. 0 expired or K. Y. 1 current began, with a conjunction at celestial longitude 0° of mean moon, mean sun and the principal planets at the moment of mean sunrise at Lākṣa on Friday, 18 February B.C. 3102. That was the moment of mean Mēsha-samkrānti in that year. It was $0^h 0^m$ Lākṣa time on that morning.

(xii) At that moment, and the same in every succeeding year, the sun's apsis (perigee) being at long. 258° , his mean anom. (our " e ") is $(360^\circ - 258^\circ) 102^\circ$, or, in thousandths of circle (our notation), $283\frac{2}{3}$.

(xiii) The moon's mean anom. (our " b ") was 90° , or, in thousandths of circle, 250.

(xiv) Since mean moon and mean sun were at that moment in conjunction, the distance between them was nil. This is represented in ten-thousandths of circle by the completed circle 10,000. From this, in order to arrive at the exact value of our " a ," must be deducted the sum of the greatest equations of ☾ and ☉ . These are deducted for convenience of calculation, the respective quantities being added to "eqn. b " and "eqn. c ," so that the working values may always be additive. The sum of these greatest equations I estimate at 199·115048361, in ten-thousandths of circle (*below*, § 296). 10,000 less this quantity = 9800·884951639. Hence at the beginning of the Kaliyuga—

$$a = 9800\cdot884951639$$

$$b = 250$$

$$c = 283\frac{2}{3}$$

CONSTRUCTION OF THE TABLES.

291. No special remarks are necessary except with reference to Tables LXIII-B (lengths of solar months), LXVI-A and LXVII-A (Detailed "Equation b " and "Equation c "), LXVIII (Indices of tithis, etc.), and the three Tables LXXII, LXXIII, LXIV. The remainder are only duplicates of the similar Tables in the "*Indian Calendar*." (See "*Arrangement of Tables*," above, § 288.)

Table LXIII-B.—Lengths of the true solar months.

292. M. Louis de Ries has been repeatedly quoted in these pages as a most careful calculator. Several years ago he kindly worked out for me an estimate of the lengths of the true solar months according to the *First Ārya-Siddhānta*, but did not inform me of the process by which he obtained his results. An entirely independent calculation has now been carried out, based on my own Table of the sun's true longitude for each 24-hour period of the solar year (*above*, Table XLVIII-A)—a Table, let it be understood, prepared some years subsequent to M. de Ries' communication and to which he has never had access.¹ Comparison of results proves the accuracy of M. de Ries' figures, and these have been adopted without alteration in my Table. The complete agreement of our respective fixtures is really remarkable.

For example, M. de Ries found that the true sun, according to Āryabhaṭa as corrected by Lalla, reaches 180° of celestial long., the moment of the Tulā-samkrānti, $186^d 21^h 21^m 37\cdot82$ after the moment of true Mēsha-samkrānti, the astronomical beginning of the true solar year.

My own work for solution of this problem is as follows:—It will be seen from Table XLVIII-A above that on that 186th day, i.e. after 186 periods of 24 hours each from the moment of true Mēsha-samkrānti, the true sun has to travel $(180^\circ - 179^\circ 6' 55\cdot21 =) 53' 4\cdot79$ before reaching the Tulā-samkrānti point, 180° . Calculating by his actual velocity on Day 186

¹ It was published during the war.

(Table XLIX), the time required for him to accomplish this journey (using his true, not mean, velocity in minutes and seconds as well as in hours¹) is found to be $21^h 21^m 37^s.82$,—precisely M. de Ries' fixture. All the details given by M. de Ries have been similarly examined, and found correct.

Dewan Bahadur L. D. Swamikannu Pillai's estimate of the lengths of these months (*Indian Chronology*, Table II) differs somewhat from ours, the sun according to him arriving at each saṁkrānti always a little later than it does by our determination. The greatest difference between us is at the Tula-saṁkrānti, which his Table shews to occur $3^m 34^s.18$ later than the time yielded by our Table. Adding together the lengths of the twelve solar months as given by him, the length of the *Ārya-Siddhānta* year appears to be $365^d 6^h 12^m 37^s$, or 7 seconds longer than its accepted length.

Tables LXVIA, LXVIIA.—"Equation b" and "Equation c."

293. In order to obtain the correct working equations of ☿ and ☾ from their respective mean anomalies it is only necessary in ordinary cases to use Tables LXVI, LXVII, which give the values of "eqn. b" and "eqn. c" roughly in whole numbers. For very close calculation, however, Tables LXVI-A and LXVII-A are provided, which give the exact equations with four decimal places for a large number of anomaly angles. For an explanation as to the construction of these Tables see § 275 above.

294. It is advisable to explain clearly my reason for differing from Prof. Jacobi as to the amount of the greatest equation of the moon, which he values, in ten-thousandths of the circle, at 139.0 as against my 139.4.

"Eqn. b." The general formula (§ 290, ix) for the equation of the moon's centre is, z being the angle of mean anom., $\sin. \text{eqn.} = \frac{7}{80} \sin. a$. To obtain the equation from the sine of the equation-angle the proportion $\text{eqn.} : \sin. \text{eqn.} :: \text{diff. in angle} : \text{diff. in sine}$ is used. The Hindu astronomers always worked by sections of anomaly-arc, each measuring $3^\circ 45'$, or $225'$. Reference to the Equation-Table LXXV will shew that in the case of the first group, anom. 0° to $3^\circ 45'$, the diff. in anom. is $225'$ and the diff. in sine is also $225'$. Hence, in the case of all anom. angles between 0° and $3^\circ 45'$, $\text{eqn.} = \sin. \text{eqn.}$. But in the case of all anom. angles between $3^\circ 45'$ and $7^\circ 30'$ —and no equation angle of the moon's anom. exceeds the latter quantity—the diff. in angle is $225'$ and the diff. in sine is $224'$; so that the formula to be used for all angles coming into this second group is $\text{eqn.} = \frac{225'}{224'} \sin. \text{eqn.}$. This applies only to the excess in the angle over $3^\circ 45'$. The working rule, therefore, for finding the equation of angles lying between $3^\circ 45'$ and $7^\circ 30'$ is as follows:—

With the formula $\frac{7}{80} \sin. a$, find the $\sin. \text{eqn.}$ From the $\sin. \text{eqn.}$ deduct $225'$. Multiply the remainder by $225'$ and divide the product by $224'$. Add $225'$ to the result.

Or, a little more simply,—From the $\sin. \text{eqn.}$ deduct $225'$. Divide the remainder by $224'$. Add the result $+ 225'$ to the $\sin. \text{eqn.}$

For an example let us suppose that it is required to find the moon's eqn. for anom. $67^\circ 30'$. $\sin. 67^\circ 30' = (\text{Table LXXV}) 3177'$. $\frac{7 \times 3177'}{80} = 277^s.9875$, or $4^\circ 37' 59^s.25$, an angle

¹ That is to say, dividing up the velocity per hour (Table XLIX) on that day into minutes and seconds, and not using Table L—which only states the sun's mean velocity.

between $3^{\circ} 45'$ and $7^{\circ} 30'$. $277'9875 - 225' = 52'9875$, and this divided by $224' = 0'236551$. $52'9875 + 0'236551 + 225' = 278'224051$, or $4^{\circ} 38' 13''44306$. This is the correct "equation b " for the given anom. It is stated by Prof. Jacobi (*Epig. Ind. Vol. I, Table XXIV*) shortly as $4^{\circ} 38' 13''$.

Turning now to the equation of 90° , the greatest equation \mathcal{Q} , and working in the same way, $\sin. 90^{\circ} = 3438'$. $\frac{7 \times 3438'}{80} = 300'825$. This less $225' = 75'825$, and this divided by $224' = 0'338504464$. $75'825 + 0'338504464 + 225' = 301'163504464$, or $5^{\circ} 1' 9''810268$, which is the exact equation required. In ten-thousandths of circle this $= 139'427548361$.

295. "Eqn. c ." [Working similarly for the greatest equation \odot or the equation of sun's anom. 90° .] The formula for finding $\sin. \text{eqn.}$ in this case is (see § 290, viii) $\frac{3}{80} \sin. a \sin. 90^{\circ} = 3438'$. $\sin. \text{eqn.} = \frac{3 \times 3438'}{80} = 128'925$, or $2^{\circ} 8' 55''5$, or, in ten-thousandths of circle, $59'6875$; and, because this angle is one in the first group, being less than $3^{\circ} 45'$, the $\text{eqn.} = \sin. \text{eqn.}$. Hence \odot 's $\text{eqn. } 90^{\circ} = 59'6875$. This is the same as Prof. Jacobi's valuation, which he gives in degrees as $2^{\circ} 8' 56''$ and in circle measurement (my notation) as $59'7$.

296. *Greatest equations \mathcal{Q} and \odot .* My estimate, therefore, of the sum of the greatest equations \mathcal{Q} and \odot is—

| | |
|---------------|---------------|
| \mathcal{Q} | 139'427548361 |
| \odot | 59'687500000 |

TOTAL . 199'115048361

The difference between us causes a slight difference in our respective Tables of equation.¹

Table LXVIII.—Indices of tithis, etc.

296-A. In this Table the indices are given with decimal points for guidance in close cases. Otherwise they correspond exactly to those in Table VIII, "*Indian Calendar*." The indices of yogas (col. 6) are the same as those of nakshatras (col. 8).

Tables LXXII, LXXIII, LXIV.

297. Prof. Jacobi (*Epig. Ind. Vol. I, p. 450*) has provided a Table, XIII, shewing for four of the Indian astronomical authorities the places of the sun and moon at the beginning of centuries,² and another, XV, shewing their increases through the years of a century according to the *Ārya-Siddhanta* with Lalla's corrections. These corrections were to be applied to the *First Ārya-Siddhanta* from the year Śaka 420 expired, or from A.D. 498-99, i.e. from the date of its compilation by Āryabhaṭa. (See his *Śiṣyagadhyeriddhida*, Benares Edit. of S. Dvivedi, p. 10 v.v. 59, 60; p. 50, v.v. 18, 19.)

If, therefore, we establish by Āryabhaṭa alone the values of " a ", " b ", " c " for 36 centuries of the Kaliyuga and add to these their values at the beginning of that era as given above

¹ For the information of those who wish to compare the two it is desirable to point out that in Prof. Jacobi's Table VII (*Epig. Ind. Vol. XI*), under head "Equation" on left side, the tenth entry from the top "626" is probably a misprint for "616"; and in the same column, the eighth entry from the bottom, "152" should preferably be read "142."

² There appears to be one misprint in Jacobi's Table XIII. Under head "Dist. \mathcal{Q} — \odot uncorrected." in the section dealing with the *Ārya-Siddhanta*, against K.Y. century 4300, the number of minutes should be "14" not "24."

we shall arrive at their values (positions of sun and moon) at the beginning of K.Y. 3600—values, that is, recognized by Lalla; and Tables giving Lalla's estimate of the periodic changes in position of the sun and moon for centuries, years, and days will enable us to ascertain their position at any later date when computed by the *Ārya-Siddhānta* with the *bija*.

298. (i) First to find the century increase of "a", "b", "c" respectively according to Āryabhaṭa uncorrected. We work for mean sunrise values only, not for values at moments of Mēsha-saṁkrānti. We require, that is, the several increases in a common century of 36526 civil days and in a defective century of 36525 such days. In the 36 Kaliyuga centuries concerned there were 31 of the former and 5 of the latter.

(ii) As regards the time-interval between the moments of mean Mēsha-saṁkrānti and the nearest mean sunrises at the beginning of each century, Prof. Jacobi's column headed "Cor." in Table XIII states these clearly in ghaṭikas and palas. Mean Mēsha-saṁkrānti always occurs $2^d 3^h 32^m 30^s$ after true Mēsha-saṁkrānti, and the moment of the latter's occurrence every year is given in hours and minutes in col. 17, Table I, "*Indian Calendar*." There is no difference between us in this respect.

(iii) The advances in the values of "a", "b", "c" respectively during a common century of 36526 civil days according to Āryabhaṭa uncorrected, excluding whole revolutions, are—"a" (mean moon's distance from mean sun) $319^{\circ} 24' 30'' \cdot 645$, "b" (\odot 's mean anom.) $211^{\circ} 1' 55'' \cdot 775$, "c" (\odot 's mean anom.) $0^{\circ} 7' 48'' \cdot 139$. These in circle measurement (our notation) are—

$$a = 8872 \cdot 458680555$$

$$b = 586 \cdot 100443673$$

$$c = 0 \cdot 361215706$$

(iv) Taking only the circle measurement, the respective increases for one day of 24-hours are—

$$a = 338 \cdot 632000730$$

$$b = 36 \cdot 291575876$$

$$c = 2 \cdot 737785720$$

(v) Deducting one day's increase from the former fixtures we have for a defective century of 36525 civil days—

$$a = 8533 \cdot 826679825$$

$$b = 549 \cdot 808867797$$

$$c = 997 \cdot 623429986$$

We now have to work out the correct details for the first 36 centuries of the Kaliyuga, 31 common and 5 defective.

299. (i) "a". Using the above figures it is found that the advance of "a" in that period (omitting quantities of 10,000 or whole revolutions¹) was $7715 \cdot 352496330$; and since at the epoch of the Kaliyuga the distance between mean moon and mean sun was nil (above, § 290, *xiv*), the same represents their relation at the beginning of K.Y. 3600. But for tabulation purposes we have to deduct from this the sum of the greatest equations \odot and \odot (§ 290 *xiv*; and 295). This sum, as already stated, I estimate at $199 \cdot 115048361$. Therefore the tabular "a" for the beginning of K.Y. 3600 is $7516 \cdot 237447969$. Prof. Jacobi gives this figure, as I interpret him,² in our notation as $7516 \cdot 6$. The difference between us is due to his estimation of the greatest equations \odot and \odot as $198 \cdot 7$ (margin of Table quoted in footnote below) instead of $199 \cdot 1$. But I adhere to my figure, the reason for which has been fully explained.

¹ There are 1236 synodical revolutions of the moon in a century.

² In both sections of his Table V (*Epig. Ind.*, Vol. XI, A and B) Prof. Jacobi's entry "76166" is manifestly a misprint for "75166." In the same Table, Section A, opposite "cent. 41" the entry "19789" should be "18789."

(ii) " b ". The advance of " b " in the first 36 centuries, omitting whole revolutions,¹ was, in thousandths of the circle, 918·158092848. Adding to this the value of " b " at K.Y. 0 (§ 290, xiii), namely 250, we have for the moon's mean anom. at the beginning of K.Y. 3600, " b " = 168·158092848.

(iii) Now in this matter Prof. Jacobi and myself are not quite in accord. He states the value (*Epig. Ind.*, Vol. XI, Table V-B) as in his notation 6718. This in my notation, measuring from perigee instead of apogee, is 171·8. This figure corresponds to his valuation of " b " at that moment, in degrees, etc., as given in *Epig. Ind.*, Vol. I, Special Table XIII, where it is fixed, for the moment of mean Mēsha-samkrānti, as 245° 6', 0". The correction for mean sunrise value is the moon's change in 15 ghaṭikas, or 3° 15' 58"·5; making the position of ζ at mean sunrise 241° 50' 1"·5, which, in thousandths of circle, is 171·760416667. Not being absolutely certain in this case that my valuation is more accurate than his, I defer to him, and accept his figure as correct.

(iv) In any very close case arising from the use of the Tables which follow, the difference between us in the value of " b ", namely 3·6, may be deducted from the resulting " b ", and the date tested by my own estimate.

(v) " c ". The change in the sun's mean anom. (our " c "), similarly calculated for the 36 centuries,² was 999·314836816. Adding 283·3, the value of " c " at K.Y. 0 (§ 290, xii), we have for K.Y. 3600 " c " = 282·648170149. But here again there is a minute difference between my estimate and that of Prof. Jacobi. He gives, for the sun's mean anom. (measured from apogee) at the beginning of K.Y. 3600 (mean Mēsha-samkrānti), 282°—a value certainly correct. To obtain mean sunrise value 14' 47" has to be deducted,³ with the result 281° 45' 13", which in thousandths of circle = 782·648919753, and in my notation (measurement from perigee) = 282·648919753. I let this stand.

(vi) The values, then, adopted in this work for the positions of \odot and ζ at mean sunrise at the beginning of K.Y. 3600 are—

$$\begin{aligned} a &= 7516\cdot237447969 \\ b &= 171\cdot760416667 \\ c &= 282\cdot648919753 \end{aligned}$$

300. (i) Table LXI below, however, the main working Table, starts from the year K.Y. 4000, and we have to add to the above figures the respective increases of " a ", " b ", " c " for four centuries, these increases being assessed by Lalla's values and not by the original values of Āryabhaṭa (§ 289).

(ii) The increases of " a ", " b ", " c " in one day, one year and one century according to Lalla are given in the heading of Table LXIV below. The four centuries are all common ones, and, adding the necessary quantities, we have for the beginning of K.Y. 4000,—mean sunrise value—

$$\begin{aligned} a &= 2987\cdot553682533 \\ b &= 523\cdot155092591 \\ c &= 284\cdot093782577^4 \end{aligned}$$

¹ There are 1325 anomalistic revolutions of the moon in a century.

² Omitting 100 whole sidereal revolutions.

³ 14' 47", or actually 14' 47"·01, is the \odot 's mean motion in 6 hours, the difference in time between mean sunrise and the moment of mean Mēsha-samkrānti on the day when, astronomically, K.Y. 3600 began.

⁴ We may estimate the value of " c " on the Sunday at the beginning of K.Y. 4000 in another way. The sun's mean anom. at the moment of mean Mēsha-samkrānti is always 283·3, or 102° (§ 290, xii). In the year in question, A.D. 860, true Mēsha-samkrānti took place (*Indian Calendar*, Table I) at 13^h 47^m 30^s after mean sunrise on Thurs., 22 March, while the moment of mean Mēsha-samkrānti was (§ 290, x) 2^h 3^m 32^s·30^u later, or 6^h 40^m before mean sunrise on Sunday, 25 March. Adding the sun's motion for 6^h 40^m from Table LXV below, viz. 0·760495086 to 283·3, the " c " for mean sunrise on that Sunday is found to be 284·063820019.

These agree, *mutatis mutandis*, with Prof. Jacobi's figures (*Epig. Ind.*, Vol. XI, Table V), which, in my notation, are $a=2088.0$, $b=523.2$, $c=284.1$.

(iii) Now these values are, as will be seen from the entry "1" in Jacobi's column for the week-day (*w.*), the figures for mean sunrise on Sunday, that is to say, on Sunday 25 March, A.D. 899, mean Mōsha-samkrānti having taken place on the previous day, Saturday, a 17^h 20^m after mean sunrise. Following general practice I work for mean sunrise on the day on which the mean samkrānti occurred, i.e. for the Saturday, and deduct one day's values from the above.

Finally then the working, Tabular, values for the beginning of K.Y. 4000 (Sat. 24 Mar. A.D. 899, mean sunrise) are—

$$a = 2648.921808551$$

$$b = 486.863468853$$

$$c = 281.355996857$$

301. The century Table LXXII below is prepared from these details by addition of century increases. All the centuries concerned except century 42, which was defective, are common ones, each of 36526 days.

Table LXXIII gives the increases of "a", "b", "c" for each year of the century,¹ following Lalla's *bija* (correction).

Table LXXIV gives the values to be added for the days intervening between that on which true Mōsha-samkrānti occurred in each year and the day of the corresponding beginning of the luni-solar year, i.e. the civil day called "Chaitra śukla 1." This Table is prepared for the purpose of assisting workers to check the main Table entries giving the values of "a", "b", "c" (Table LXI, cols. 23-25). The week-day stated in the main Table will always serve as a guide. Compare the similar Table in my article on the *Siddhānta-Śirōmaṇi* above, where instructions for its use are given (§ 279).

THE NAKSHATRA.

302. A special note must be made regarding the working of the "*Indian Calendar*" rule (§ 156, p. 97) for obtaining approximately the index of the nakshatra.

It will be observed there that part of the process (see § 133, *Ind. Cal.*) consists of the addition to the value of "c", the sun's mean long., of a constant, viz. 7207, as stated in 10,000ths of circle. This is the *Sūrya-Siddhānta* quantity. For work by the *Ārya-Siddhānta* we require the *Ārya-Siddhānta* quantity

The *Sūrya-Siddhānta* figure is made up of (i) long. of sun's perigee-point² ($257^{\circ} 15' 55''.7 = 7146.3$) and (ii) 60.4, the greatest equation of the sun's centre.

Now (i) the long. of the sun's perigee-point according to the *Ārya-Siddhānta* is always 258° , or, in 10,000ths of circle, 7166.6 (§ 290, c, *above*); and (ii) the greatest equation of the sun's centre (§§ 295, 296) is 59.6875. Hence the *Ārya-Siddhānta* constant for calculating the nakshatra is $(7166.6 + 59.6875 = 7226.3542)$; and for approximate calculation is 7226, not 7207.

¹ There appear to be two misprints in Prof. Jacobi's Table VI (*Epig. Ind.*, Vol. XI, p. 165) in which he gives similar annual increases. Against year 3, under "c," "61" should be "6"; and against year 52, under "a," "16312" should be "16352."

² This is its position in A.D. 1100, a date about the middle of the period, A.D. 300—1900, dealt with in Table I of the *Indian Calendar*. In ten-thousands of circle the long. of perigee by the *Sūrya-Siddhānta* varies from 7145.54563 in A.D. 300 to 7146.97916 in A.D. 1900.

Thus the rules for finding the nakshatra by the *Ārya-Siddhānta* are as follows:—

A. Roughly. Find "*a*", "*b*", "*c*" and "*t*" in whole numbers; multiply "*c*" by 10; add 7226 to the result; from this subtract "equation *c*." The result is "*s*", the sun's true longitude.

B. More closely. Find "*a*", "*b*", "*c*" and "*t*" with the fractions in decimals; to the value of "*c*" multiplied by 10, or with the decimal point one place to the right, add the constant 7226.3542; from the result deduct (including decimals) the amount of "equation *c*." The result is "*s*" in full detail. $s+t=u$, the index of the nakshatra, with which turn to Table LXVIII, which gives the name of the nakshatra and fixes the true moon's place in the ecliptic circle.

The work is shewn in Example 7 below.

EXAMPLES.

Example 1. To find the "*a*", "*b*", "*c*" values for mean sunrise on the first civil day of the luni-solar year.

Rule. Add together the entries in Tables LXXII and LXXIII for the corresponding expired year of the Kaliyuga, and those in Table LXXIV for the number of days' interval from true Mēsha-saṁkrānti (Table LXI, col. 13, bracket-number) to the first civil day of the luni-solar year, called "Chaitra śukla 1" (col. 19, bracket-number). Note specially the week-day of Chaitra śukla 1, and work for that day.¹ Decimals need not be used except in close cases.

For an example I take the year A.D. 1110-11. It corresponds (Table LXI) to K.Y. 4211 expired. The entries shew that true Mēsha-saṁkrānti occurred on Day 83 (Thursday 24 March, A.D. 1110), and Chaitra śukla 1 on Day 82, the day previous. Interval between them 1 day.

Full work with the decimals:—

| | se.-d. | a. | b. | c. |
|---|--------|-----------|----------|----------|
| (Table LXXII) Beginning of K.Y. cent. 42 | (0) | 384.5799 | 662.5608 | 282.0784 |
| (Table LXXIII) Beginning of year 11 | (0) | 622.8697 | 819.7442 | 0.4230 |
| (Table LXXIV) Interval of days, 1 | (4) | 8984.1044 | 891.1251 | 991.7866 |

At mean sunrise on Day 82, or on
(4) Wednesday 23 March, A.D.
1110

(4) 9991.5540 373.4301 274.2880

These are the entries for that day in Table LXI.

The same result can be obtained by first finding the "*a*", "*b*", "*c*" for mean sunrise of the day on which true Mēsha-saṁkrānti took place, and then deducting the values for the intervening days as given in Table LXIV. [The day on which true Mēsha-saṁkrānti took place is, in Table LXXIV, the day "Mēsha 0" (col. 2).]

¹ Owing to the formation of the several Tables the interval of days measured by their bracket-numbers in Table LXI, cols. 13, 19, sometimes differs by 1, but never by more than 1. But this leads to no difficulty when the desired week-day is duly noted. The point to remember is that the resulting week-day in our addition must be the correct one as given in Table LXI, and that we must use the entries in Table LXXIV for such number of days as will make the final week-day the one we work for.

Thus :—

| | <i>m.-d.</i> | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|-------------------------------|--------------|-----------|-----------|-----------|
| (Table LXXII) As before . . . | (0) | 384·5799 | 662·5608 | 282·0784 |
| (Table LXXIII) Do. . . . | (0) | 622·8697 | 819·7442 | 0·4230 |
| (Table LXXIV) " Masha 0 " . . | (5) | 9322·7363 | 927·4168 | 994·5244 |

At mean sunrise on day of true
Mēsha-saṁkrānti, (5) Thursday,
24 March (Day 83)

| | | | | |
|--|-----|----------|----------|----------|
| | (5) | 330·1859 | 409·7218 | 277·0258 |
|--|-----|----------|----------|----------|

(Table LXIV) Less 1 day interval

| | | | |
|----|-----------|----------|---------|
| -1 | -338·6319 | -36·2916 | -2·7378 |
|----|-----------|----------|---------|

At mean sunrise on Day 82, (4)

| | | | | |
|-----------------------|-----|-----------|----------|----------|
| Wed. 23 March | (4) | 9991·5540 | 373·4302 | 274·2880 |
|-----------------------|-----|-----------|----------|----------|

The result is the same as above.

Example 2. The same for a year with a greater interval of days between Mēsha-saṁkrānti and Chaitra śukla 1.

Take the year A.D. 1603, K.Y. 4704 expired. The interval of days from true Mēsha-saṁkrānti (Table LXI, col. 13) back to Chaitra śukla 1 (col. 19) (mean sunrise in both cases) is (87-62) 25.

FIRST PROCESS—with full decimals :—

| | <i>m.-d.</i> | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|--------------------------------|--------------|-----------|-----------|-----------|
| (Table LXXII) Cent. 47 . . . | (6) | 4385·0933 | 565·5125 | 281·1467 |
| (Table LXXIII) Year 4 . . . | (5) | 4741·1679 | 22·0623 | 999·9049 |
| (Table LXXIV) Interval 25 days | (1) | 856·9394 | 20·1262 | 926·0798 |

At mean sunrise on Day 62, or
Chaitra śukla 1, (5) Thursday
3 March, A.D. 1603

| | | | |
|-----|-----------|----------|----------|
| (5) | 9983·2006 | 607·7010 | 207·1314 |
|-----|-----------|----------|----------|

These are the entries in Table LXI.

SECOND PROCESS :—

| | <i>m.-d.</i> | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|-------------------------------|--------------|-----------|-----------|-----------|
| (Table LXXII) Cent. 47 . . . | (6) | 4385·0933 | 565·5125 | 281·1467 |
| (Table LXXIII) Year 4 . . . | (5) | 4741·1679 | 22·0623 | 999·9049 |
| (Table LXXIV) " Mēsha 0 " . . | (5) | 9322·7363 | 927·4168 | 994·5244 |

At mean sunrise of (Day 87)
Mēsha-saṁkrānti day, (2) Mon.
25 March, A.D. 1603

| | | | |
|-----|-----------|----------|----------|
| (2) | 8448·9975 | 514·9916 | 275·5760 |
|-----|-----------|----------|----------|

(Table LXIV) Less for 25 days'
interval

| | | | |
|------|------------|-----------|----------|
| -(4) | -8465·7968 | -907·2906 | -68·4446 |
|------|------------|-----------|----------|

At mean sunrise on Day 62 . . . (5) 9983·2007 607·7010 207·1314

Result, the same.

COMPUTATION OF A DATE.

Example 3. We will now take a supposititious Record-date, and in the following examples explain the complete method of work for proving the accuracy of all its details; and for settling some other matters.

The date is "Śaka 1148 expired, K.Y. 4327, Vyaya, Saturday, Bhādrapada śukla 5, Kanyā 1, Bāva karaṇa, nakshatra Viśākhā, yoga Vaidhṛiti, Kanyā lagna."

Table LXI shews that the year corresponded to A.D. 1226-27; that in that year true Mēsha-saṁkrānti took place 3^h 55^m after mean sunrise on Wed. 25 March (Day 84 from 1 Jan.); that the civil day "Chaitra śukla 1" was Sunday 1 March (Day 60 from 1 Jan.); and that (col. 8) the lunar month Āshāḍha was intercalated in that year. The year was called "Vyaya" in South India, "Vikṛita" in the North.

✓ The interval of days between the initial days of the solar and luni-solar year was (84-60) 24.

In this example we work for the values of "a", "b", "c" and "t" at mean sunrise of the day "Chaitra śukla 1", which is stated in Table LXI to have been (col. 20) a Sunday. We work by the first process shewn above, and with full decimals. In using Table LXXIV for the interval of days—24 as already stated—it is observed that the week-day number (col. 3) for that number of days' interval (col. 1) is 2, and that, since the week-days obtained for the year from Tables LXXII, LXXIII are respectively 6 and 6, total 12, the addition of 2 will make total 14, or 0, or a Saturday, whereas the day we are working for was Sunday. Hence we use the figures for 23 days' interval, week-day 3, which gives us the correct "a", "b", "c" for 1 Sunday. (See note to Example 1.)

| | w.-d. | a. | b. | c. |
|-----------------------------------|-------|-----------|----------|----------|
| (Table LXXII) K.Y. Cent. 43 . . . | (6) | 8913-7771 | 214-1179 | 279-7019 |
| (Table LXXIII) Year 27 . . . | (6) | 9587-5412 | 907-9933 | 0-0428 |
| (Table LXXIV) 23 days' interval | (3) | 1534-2032 | 92-7094 | 931-5554 |

At mean sunrise on (1) Sunday 1

March, A.D. 1226, i.e. the day

"Chaitra śukla 1" . . . (1) 35-5215 214-8206 211-3001

The above work has been thus fully carried out in order to prove the correctness of the entries in Table LXI, cols. 23, 24, 25, which are the same. This work is not required to be done in practice as the Table provides the information.

Now, knowing the Table entry to be accurate, we proceed

The tithi. Ordinary work

*Example 4. The true tithi.*¹ The given date is Bhādrapada śukla 5. Table LXIII-A shews that, Āshāḍha having been intercalated in the year in question and Bhādrapada being therefore the seventh and not the sixth lunar month of the year, it began about 177 days after the day "Chaitra śukla 1"; consequently "Bhādr. śuk. 5" was about 181 days after. Having

¹ The mean tithi (and probably the mean nakshatra and yoga also) was used in earlier years—to how late a date is not yet known. The mean tithi is the mean moon's distance from mean sun, our α . To find it, add to the ascertained value of α (as in Example 3) for the day the sum of the greatest equations of moon and sun, i.e. 100-1150. The total gives the α of the mean tithi (= t of the true tithi). Thus for the day in question the mean tithi-index is (36+199) 235, or (35-5215+199-1150) 234-6365. This was its value at mean sunrise of the given day.

added the values of "a", "b", "c" for 181 days to those already found for Chaitra śukla 1. the equations of "b" and "c" are added from Tables LXVI, LXVII approximately, or from Tables LXVI-A, LXVII-A in very close and doubtful cases, to the resulting value of "a" for the day; thus "t", the true tithi-index, is found.

In this example we work approximately.

The serial number of the day Chaitra śukla 1 (in March A.D. 1226) is 60 and the week-day 1 Sunday (*Example 3*). The a, b, c for mean sunrise have been settled in *Example 3*.

| | d. | w.-d. | a. | b | c. |
|------------------------|-------|-------|------|-----|-----|
| Table LXI, cols. 19-21 | (60) | (1) | 36 | 215 | 211 |
| (Table LXIV) | (181) | (6) | 1292 | 569 | 496 |
| | (241) | (0) | 1328 | 784 | 707 |
| (Table LXVI) "Eqn. b" | | | 3 | | |
| (Table LXVII) "Eqn. c" | | | 117 | | |

At mean sunrise on day 241, $t=1448=(\text{Table LXVIII})$ śukla 5.

Day 241 was (Table LXIX) August 29. Week-day 0=Saturday. Reference to Table LXXI confirms this as the right week-day.

The given Hindu date then is so far correct. The 5th śukla tithi of Bhādrapada ended on and gave its name to, Sat. 29 Aug. A.D. 1226. For historical purposes it is seldom necessary, unless the karapa is mentioned, to find the time of beginning and ending of the tithi, but if required this is obtained approximately from Tables LXVIII, col. 3, and LXIX. At mean sunrise the tithi-index was 1448. It began $(1448-1333=) 115$, or (Table LXX) 8^h 9^m before, and ended $(1667-1448=) 219$, or 15^h 31^m after mean sunrise on that Saturday.

The tithi. Exact work.

Example 5. Working the same date with the full decimals, we have—

| | d. | w.-d. | a. | b. | c. |
|-----------------|-------|-------|-----------|----------|----------|
| As in Example 3 | (60) | (1) | 35.5215 | 214.8206 | 211.3001 |
| Table LXIV | (181) | (6) | 1292.3692 | 568.7839 | 495.5392 |
| | (241) | (0) | 1327.8907 | 783.6045 | 706.8393 |

For either "equation b" or "equation c" note the difference between the values of "b" or "c" thus found and the nearest value respectively in Table LXVI-A or LXVII-A, cols. 2a, 2b. Multiply this difference by the group-difference (col. 4). Divide the result roughly by 2 or exactly by 2.083; and add or subtract the result to or from the standard equation-value given in the Table (col. 3) as necessity demands.

[This is the complete process, but it almost always suffices to arrive very near to the truth merely by the exercise of common sense, using Tables LXVI-A, LXVII-A as Eye-Tables.]

Here the moon's anom. "b" is 783.6045, and the nearest amount of "Argument 3" in Table LXVI-A is 783.3, whose exact equation is 3.1006 (col. 3). As the difference in anom. is only about 0.3, viz. 0.2712, and the group-difference only 0.4150 we may take 3.1006 as the required equation of the given anom. Or we may work roughly by a multiplication of the first two decimals of the anom. diff. (0.27) by those of the group-diff. (0.42) and a division of the result by 2—yielding 0.0567, which, added to 3.1006, makes "equation b" = 3.1573; or we may work completely with all four decimals, arriving at the absolutely correct result 3.1546.

The sun's anom. "c" is 706·8393. The equation is similarly found by use of Tables LXVII or LXVII-A. The nearest amount of "Argument" in Table LXVII-A is 706·2500. Full work is as follows.—Diff. in anom. is 0·5893. This, multiplied by the group-difference (col. d) 0·2237, is 0·133005. This, divided by 2·083, is 0·0638. The equation of anom. 706·2500 is (col. 3) .17·1181. This plus 0·0638=117·1819, the exact equation required.

Applying, as before, these exact equations of the values of anom. "b" and "c" to the value of "a", we have—

| | | | | |
|------------------|---|---|---|-----------|
| As already found | . | . | . | 1327·8907 |
| Equ. b | . | . | . | 3·1546 |
| Equ. c | . | . | . | 117·1819 |

The tithi-index, $t=1448·2272$

By the work as in Example 4 the tithi-index (t) at mean sunrise was 1448.

The karapa.

Example 6. The karapa is half a tithi. See Table LXVIII, cols. 4, 5. For the date we are examining (*Examples 3, 4, 5*), viz. śukla 5 (*Table, col. 2*), the two karapas are Bāva and Bālava. The tithi began (*end of Example 4*) 8^h 9^m before and ended 15^h 31^m after mean sunrise on 29 Aug. A.D. 1226. Its length was 23^h 40^m. Half of this is 11^h 50^m. Thus Bāva was the karapa from 9^h 9^m before to 3^h 41^m after mean sunrise on 29 Aug., and Bālava was the karapa from 3^h 41^m to 15^h 31^m on that day. Since the karapa mentioned in the given date was Bāva the action referred to in the record must have taken place between mean sunrise and 3^h 41^m later, on 29 Aug. 1226, i.e. roughly between 6·0 and 9·41 A.M. on that day.

The nakshatra.

Example 7. Required the nakshatra of the same day, month and year as in *Examples 3, 4, 5, 6*.

A nakshatra, or lunar mansion, is, in the equal-space system, a 27th part of the complete journey of the moon in a lunar month through the circle of the stars. Our nakshatra-index shews in which of these parts the moon was at any given moment. In these examples we are working for the true, not mean, moon's place. Each of these 27 parts has its own nakshatra-name and yoga-name (*see Table LXVIII*). In the systems of Garga and the *Brahma-Siddhānta* the divisions of the constellation-circle are unequal, being designed more nearly to suit the positions of the principal stars,¹ but the names of the divisions are the same as in the equal-space system.

The indices of the beginning and ending points of the nakshatras are stated, in 10,000ths of the circle, in Table LXVIII. The same in degrees are given, together with those of the zodiacal solar signs, in "*Indian Chronography*," Table XXII.

(A) The rule for finding the nakshatra roughly when working with only whole numbers is as follows:—Take the "c" of the date; multiply it by 10; add the constant 7226 (*see § 302 above*); and deduct the amount of "equation c." This gives "s", the sun's true longitude at mean sunrise of the given day. Add "s" to "t" and the result is "n", the nakshatra-index. Reference with this index to Table LXVIII (col. 3, or 9, or 10) shews the nakshatra required.

Mr. G. R. Kaye, in his "*Astronomical Observatories of Jai Singh*" (p. 117), gives the actual lat. and long. of the stars after which the nakshatras were named.

i.e. the true moon's place amongst the constellations at mean sunrise, stated in 10,000ths of the circle. The moon's place in degrees, minutes, and seconds can be found by Table XLV-B, above.

Thus, by the figures in Example 4 :—

$$\begin{array}{r}
 c \times 10 = 7070 \\
 \text{Constant} + 7226 \\
 \hline
 4296 \\
 \text{Less equ. } c = 117 \\
 \hline
 \text{Sun's true long., } s = 4179 \\
 \text{Tithi-index, } t, + 1448 \\
 \hline
 \text{Nakshatra-index } n = 5627 = (\text{Table LXVIII, cols. 8, 9, 10}) \text{ Viśākṣā} \\
 \text{by all systems.}
 \end{array}$$

This is approximately correct.

(B) Greater exactness can be obtained by using the decimals as in example 5, thus —

$$\begin{array}{r}
 c \times 10 = 7068.3930 \\
 \text{Constant} + 7226.3542 \\
 \hline
 4294.7472 \\
 \text{Less equ. } c = 117.1819 \\
 \hline
 s = 4177.5653 \\
 t + 1448.2272 \\
 \hline
 n = 5625.7925
 \end{array}$$

There is here a little difference in the resulting nakshatra-index, which may in some cases be as great as nearly 10 units owing to the roughness of the earlier method.

(C) The value of "s" at mean sunrise of the day in question can also be obtained easily by my Tables for the sun's true longitude for each day of the solar year given above (pp. 45—130). The following shews the method of work :—

In the present case the serial number of the day in question was 241 (*Example 4*). True Mēsha-saṁkrānti took place (*see Example 3*) on Day 84 at 3^h 55^m after mean sunrise. The day of our date was (241—84) the 157th period (each of 24 hours) after the moment of true Mēsha-saṁkrānti. On this 157th day at 3^h 55^m after mean sunrise the sun's true longitude, "s" was, in 10,000ths of circle, 4182.0049 (*Table XLVIII-A, above, p. 74, col. 9*). Deduct the values for 3 hours (*Table XLIX, p. 96, sun's true motion on that 157th day*) and 55^m (*Table L, mean motion in minutes*), viz., respectively, 3.3852 and 1.0457, total 4.4309.

$$\begin{array}{r}
 4182.0049 \\
 - 4.4309 \\
 \hline
 \end{array}$$

At mean sunrise "s" = 4177.5740

This is the value of "s" at mean sunrise of the 29 August of our date, and, added to "t" (1448.2272), it gives us the correct nakshatra-index 5625.8012, shewing a slight difference of 0.0087 in results.

If, for even greater accuracy, instead of using the value of the sun's *mean* motion in 55^m we had worked by his *true* motion on that 157th day, viz. by dividing by 60 his true motion in 1 hour (Table XLIX, p. 96) and multiplying the result by 55, we should have found "*n*" = 5625·8092.

This method C, for finding the sun's longitude "*s*", is believed to be absolutely accurate and should be relied on in case of doubt.

The yoga.

Example 8. The nakshatra (*Example 7*), as quoted in the given date shews in which of the 27 sidereal divisions the moon stood at the moment in question, or the extent of the moon's journey from celestial long. 0°. The yoga deals with the combined journeys of both sun and moon.

To find, therefore, the index of the yoga at mean sunrise of the given day we have to add the long. of the true sun to the long. of the true moon at that moment. But the long. of the true moon is the index "*n*", i.e. the nakshatra-index already found. And the long. of the sun is the index "*s*", also already found (*Example 7*).

Hence the yoga-index "*y*" = *s* + *n*; or, since *n* = *s* + *t* (*Example 7*), *y* = 2*s* + *t*. The latter formula makes it easy to find the yoga when it is unnecessary to find the nakshatra.

At mean sunrise of 29 Aug. A.D. 1226 we have found that "*s*" = 4177·5653 and that "*n*" = 5625·7925; hence the yoga-index "*y*" = 9803·3578, and (Table LXVIII) the yoga of the day was 27 Vaidhriti. If we had not already ascertained the amount of the nakshatra-index "*n*", but knew that "*s*" = 4177·5653, we could have multiplied this value of "*s*" by 2 and added the quantity to the amount of the tithi-index "*t*". The result is the same.

The several saṁkrāntis.

Example 9. To find the values of "*a*", "*b*", "*c*" and "*t*" at the moments of the several solar saṁkrāntis in the given year, and thereby to find whether a lunar month was common, intercalary (*adhika*), or suppressed (*kshaya*)

A saṁkrānti takes place when the sun touches the point of a zodiacal sign, i.e. when he reaches long. 30°, 60°, etc. When, at the first of two such successive occurrences, the true moon is waning and at the second is also waning, or at the first is waxing and at the second is also waxing, the lunar month is common. If the moon is waning at the first and waxing at the second, the lunar month is repeated. It is intercalary (*adhika*). When the moon is waxing at the first and waning at the second the lunar month is altogether suppressed (*kshaya*).

Thus it is necessary to find the "*a*", "*b*", "*c*" for the moment of the astronomical beginning of the solar year, the actual moment, that is, of the true Mēsha-saṁkrānti and add to their values their respective increases during the several true solar months, thus obtaining the "*a*", "*b*", "*c*" for the moments of the true saṁkrāntis concerned. Adding to the value of "*a*" at the moment of a saṁkrānti the values of "equation *b*" and "equation *c*" (as in the former examples), we find the index of the tithi "*t*", which shews whether the true moon was waxing or waning at the moment.

The date and time of the true Mēsha-saṁkrānti is given in Table LXI, cols. 13, 14, 17. The intervals in time to each subsequent saṁkrānti, and the collective intervals to each, are given in Table LXIII-B, cols. 8 and 3; and the corresponding increases in the values of "*a*", "*b*", "*c*" are given in the same Table, cols. 9, 10, 11 and 4, 5, 6.

We will consider the conditions for the first few saṁkrāntis of the same year as in Examples 3-8, viz. A.D. 1226 27, K. Y. 4327, Śaka 1148.

First we have to ascertain the values of "a", "b", "c" at the moment of true Mēsha-saṁkrānti, which took place (*Table LXI, cols. 13, 14, 17*) at 3^h 55^m after mean sunrise on Day 84, namely Wednesday 25 March A.D. 1226. The "a", "b", "c" for mean sunrise of Day 60, Sunday, 1 March, the day of Chaitra śukla 1, are given in cols. 23, 24, 25 of the same Table. Interval between the two, whole days, (84-60=) 24. Taking down the "a", "b", "c" for 25 March and adding their increase for 24^d 3^h 55^m from *Tables LXIV, LXV*, we find the values of "a", "b", "c" at the moment of true Mēsha-saṁkrānti, as required.

Table LXIII-B gives us the exact interval in time and the amount of increase of "c", "b", "c", during that interval, up to the moment of every subsequent saṁkrānti in the year. In close cases, of course, full decimals can be used and the equation-values very carefully examined, but in general it is only necessary to use whole numbers, as in this example. Only in a doubtful case need we do more.

We desire, let us suppose, to ascertain, from the values of "t" at the respective Mithuna and Karka-saṁkrāntis, whether the moon was waxing or waning at the moments of their occurrence. The work is as follows:—

| | d. | w.-d. | a. | b. | c. |
|--|----|-------|-----------------|-----|------------------|
| Mean sunrise Chait. śuk. 1 (<i>Table LXI</i>) | 60 | 1 | 36 | 215 | 211 |
| 24 days' increase (<i>Table LXIV</i>) | 24 | 3 | 8127 | 871 | 66 |
| 3 hours' do. (<i>Table LXV</i>) | | | 42 | 5 | 0 |
| 55 minutes' do. (do.) | | | 13 | 1 | 0 |
| At moment of true Mēsha-saṁkrānti | 84 | 4 | 8218 | 92 | 277 |
| Interval to Mithuna saṁk. (<i>T. LXIII-B, left side</i>) | | | +1105 | 262 | 171 |
| At moment of Mithuna-saṁkrānti | | | 9323 | 354 | 448 ¹ |
| Equ. b (<i>Table LXVI</i>) | | | 250 | | |
| Equ. c (<i>Table LXVII</i>) | | | 41 ¹ | | |

Index, at moment of Mithuna-saṁk., of true moon . . . $t = 9614$

This value of "t" shews that at the Mithuna-saṁkrānti the moon had not reached the point of new moon when "t" = 10,000. She was still waning.

| | a. | b. | c. |
|--|-----------------|-----|------------------|
| At moment of Mithuna-saṁkrānti, as above | 9323 | 354 | 448 |
| Interval to Karka saṁk. (<i>T. LXIII-B, cols. 9, 10, 11</i>) | 703 | 147 | 47 |
| At moment of Karka-saṁkrānti | 26 | 501 | 535 ¹ |
| Equ. b (<i>Table LXVI</i>) | 138 | | |
| Equ. c (<i>Table LXVII</i>) | 73 ¹ | | |

Titibi-index . . . $t = 237$

[It is not really necessary, when it is seen that "a" (here 26) is greater than 0, to add the equations, because the value of "a" proves that the moon had begun a new synodical revolution and was waxing.]

The value of "t" (and "a") shews that the moon was waxing at the Karka-saṁkrānti. Thus the lunar month Āshāḍha (*see cols. 1, 2, Table LXIII-B*) was intercalated in the given year.

The place of the moon at the moments of the later saṁkrāntis is obtained, if required, by a continuation of similar work and the use of *Table LXIII-B*

¹ See note to *Table LXIII-B*. These values are given in the auxiliary Table. At the Mithuna-saṁkrānti "c" is always 448.0877 and "eqn. c" always 40.5649. At the Karka-saṁkrānti "c" is always 534.6213 and "eqn. c" always 72.5193.

Days of the solar year.

Example 10. To find the day and week-day of the solar year corresponding to any given day in the luni-solar year.

The moment of true Mēsha-saṁkrānti, as given in Table LXI. cols. 13, 14, 17, marks the astronomical beginning of the solar year. In different parts of India (see *Indian Calendar*, § 28, p. 12, and *Indian Chronography*, § 43, pp. 18, 19) there are different rules for fixing the first day of the solar month, which is sometimes the same day, sometimes the next day, sometimes (in Bengal) the third day. In the present case we imagine the record to have come from the Tamil country and we work by the Tamil rule.

In the given year (*Example 3*), A.D. 1226, true Mēsha-saṁkrānti took place on Day 84 (measured from Jan. 1), Wednesday 25 March, at 3^h 55^m after mean sunrise, and the Wednesday was the day "1 Mēsha" since the saṁkrānti occurred before sunset.

The days in Mēsha follow regularly. But to find the first civil day of each successive month in the year we must establish the moment when each saṁkrānti took place. This information is obtained from Table LXIII-B.

We have determined the given date to be (see *Examples 4, 5*) the serial day 241 measured from Jan. 1, and the 157th day after the day on which Mēsha-saṁkrānti occurred, which was Day 84. Turn to Table LXIII-B. Kanyā began 156 days after true Mēsha-saṁkrānti so our date will be in the solar month Kanyā. Calculate the moment of occurrence of the Kanyā-saṁkrānti in the given year from the same Table.

| | d. | w.-d. | h. | m. | s. |
|---|-------|-------|----|----|----|
| (Table LXI) True Mēsha-saṁkrānti . . . | (84) | (4) | 3 | 55 | 0 |
| (Table LXIII-B) Interval to Kanyā-saṁk. • | (156) | (2) | 10 | 24 | 25 |
| Moment of Kanyā-saṁkrānti . . . | (240) | (6) | 14 | 19 | 25 |

By Tamil rule, since the saṁkrānti took place after sunset, or 12^h Lanka time, viz. at 14^h 19^m 25^s after mean sunrise, the civil day "1 Kanyā" was not (6) Friday (Day 240) 28 August, the day of the saṁkrānti, but was Saturday (Day 241), 29 August.

And this Saturday happens to have been the very day of our record, which day was in solar-year reckoning "1 Kanyā."

[Observe that if the record had come from Bengal its solar date would have been the same, since the saṁkrānti occurred before midnight on Friday, and the Saturday was therefore "1 Kanyā." Had it come from Orissa, the Saturday would have been "2 Kanyā," since the first day of the solar month is, in that country, always the day of the saṁkrānti, and so "1 Kanyā" was the Friday. By the Malabar Rule "1 Kanyā" was Saturday.]

The lagna.

Example 11. On the day in question (*Example 7*) it has been established that at mean sunrise the sun's true long. "s", in 10,000ths of the circle, was 4177.5653. To calculate the lagna we must have "s" in degrees, etc., which can be calculated by Table XLV-B, above, or by Tables XLVIII-A, XLIX, L. We work by the latter.

The day of the record was the 157th after true Mēsha-saṁkrānti, which took place 3^h 55^m after mean sunrise on the day of its occurrence. Table XLVIII-A (p. 74, col. 9) shews that at 3^h 55^m after mean sunrise 157 days later the sun's true long. "s", was 150° 32' 7".84. Deduct his motion (true) for 3^h by Table XLIX (p. 96), viz. 7' 18".72, and (mean) for 55^m by Table L, viz. 2' 15".52, total 9' 34".24. Then "s" at mean sunrise was 150° 23' 33".60.

The long. of the point of rising of Kanyā is (*Indian Chronography*, Table XXII) 150°, and that sign ends at 180°. Take the ending-point and calculate the distance between it and the sun at mean sunrise. 180° - 150° 23' 33".60 = 29° 36' 26".40. There is no need here for

great accuracy, and we take this as $29^{\circ} 36'$. Turn this into time by multiplying the degrees by 4^h , and the minutes by 4^s . Resu $1^h 58^m 24^s$.

Thus on the given day Kanyā was lagna from very shortly before till about $1^h 58^m$ after mean sunrise.

In examining the given date in the matter of the karapa (*Example 6*) we found that the action referred to in the record must have taken place between mean sunrise and $3^h 41^m$ later, or between 6.0 and 9.41 A.M., on Sat., 29 Aug., A.D. 1226. The mention of the lagna still further reduces the time and shews that the action referred to must have taken place between mean sunrise and a time $1^h 58^m$ later; or between 6.0 and 7.58 A.M. on that day.

NOTE.

The above examples may perhaps, strike the uninitiated as involving an immense amount of complicated work in order to obtain the desired result. But such is by no means the case. Every date can be calculated in whole numbers at first, and it is very seldom that the decimals need be resorted to. They are provided for the purpose of deciding doubtful cases where very great accuracy is required.

For all the details of the given date,—and it is very seldom that so many are stated in an inscription or grant,—the following exemplifies all the work necessary to be done to put us in full possession of the facts. In about a quarter of an hour we learn everything that has to be learned; and when less details are given their accuracy can be proved or disproved in a few minutes. What follows shews the ordinary work to be done for the date given in Examples 3-10.

Given year = Śaka 1148, K.Y. 4327, Vyaya, A.D. 1226-27.

| | <i>d.</i> | <i>w.-d.</i> | <i>h.</i> | <i>m.</i> | <i>s.</i> | <i>d.</i> | <i>w.-d.</i> | <i>a.</i> | <i>b.</i> | <i>c.</i> |
|---------------|-----------|----------------|-----------|-----------|-----------|-----------|--------------|------------|---------------|-----------|
| Mēsha samk: = | (84) | (4) | 3 | 55 | 0 | (60) | (1) | 36 | 215 | 211 |
| | (156) | (2) | 10 | 24 | 25 | (181) | (6) | 1292 | 569 | 496 |
| | (240) | (6) | 14 | 19 | 25 | (241) | (0) | 1328 | 784 | 707 |
| 1 Kanyā = | (241) | 0 Sat. 29 Aug. | | | | | | 3 | | |
| | | | | | | | | 117 | | |
| | 1448 | 1667 | | | | | | $t = 1448$ | Bhādr. śuk. 5 | |
| | - 1333 | - 1448 | | | | | | | | |

| | | | |
|----------------------|-----------------|-----------------------------------|------------------------|
| tithi began | 115 = $8^h 9^m$ | 219 = $15^h 31^m$ (end of tithi.) | $c = 7070$ |
| | | | 7226 |
| | | | 4296 |
| | | | - 117 |
| | $8^h 9^m$ | | $s = 4179$ |
| | 15 31 | | 4179 |
| | 2) 23 40 | | $t = 1448$ |
| | | | 8358 |
| Total Bāva | 11 50 | | $\therefore n = 5627$ |
| | - 8 9 | | + 1448 |
| Bāva on Sat. 29 Aug. | = 3 41 | | $y = 9806$ |
| | | | $n = \text{Viśākḥā}$ |
| | | | $y = \text{Vaidhṛṭi.}$ |

(The lagna requires a short calculation by itself.)

The above decides the solar month, day and week-day.

| | | | | |
|---|---|---|---|---|
| " | " | " | " | luni-solar month, day and week-day. |
| " | " | " | " | tithi. |
| " | " | " | " | karapa. |
| " | " | " | " | nakshatra. |
| " | " | " | " | yôga. |
| " | " | " | " | the positions of sun and moon, their longitudes, and distance from one another. |
| " | " | " | " | the time of day referred to, within 2 hours. |

TABLE A.

DIFFERENCES IN THE CALENDAR BETWEEN ĀRYA AND SŪRYA SIDDHĀNTA FIXTURES.

Cols. 1, 2.—The number of the year here given is the one generally used in records of the year A.D. noted in column 3, and is stated here so as to catch the eye readily. In referring to the main Table LXI the number of the year in columns 1, 2 therein is the present number advanced by 1, being the corresponding concurrent year.

Col. 4, Class A.—Samvatsara-names given to solar and luni-solar years by northern system.

Col. 4, Class B.—Intercalations and suppressions of different lunar months. "adh." = an intercalated (adhika) month; "ksh," a suppressed (kshaya) month.

Col. 4, Class C.—Differences in the civil day called "Chaitra Śukla 1," the civil beginning of the luni-solar year. The figure in brackets in columns 5, 6 is the number of the civil day measured from January 1st.

| K. Y. expired. | Śaka expired. | A. D. | Class. | FIXTURES ACCORDING TO THE | |
|-------------------|------------------|---------|--------|---------------------------|----------------------|
| | | | | First Ārya-Siddhānta. | Sūrya-Siddhānta. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 4007 | 828 | 906-7 | A | 1 "Prabhava" . . . | 60 "Kshaya." |
| 4008 | 829 | 907-8 | A | 2 "Vibhava" . . . | 1 "Prabhava." |
| 4009 | 830 | 908-9 | A | 3 "Sukla" . . . | 2 "Vibhava." |
| 4075 | 896 | 974-75 | B | 4 Āshādha (adh.) . . . | 3 Jyēṣṭha (adh.) |
| 4080 | 901 | 979-80 | B | 6 Bhādrapada (adh.) . . . | 3 Jyēṣṭha (adh.) |
| 4092 | 913 | 991-92 | A | 27 "Vijaya" . . . | 26 "Nandana." |
| 4093 | 914 | 992-93 | A | 28 "Jaya" . . . | 27 "Vijaya." |
| 4094 | 915 | 993-94 | A | 29 "Manmatha" . . . | 28 "Jaya" |
| 4095 | 916 | 994-95 | A | 30 "Durmukha" . . . | 29 "Manmatha." |
| 4159 | 980 | 1058-59 | B | 4 Āshādha (adh.) . . . | 3 Jyēṣṭha (adh.) |
| 4177 | 998 | 1076-77 | A | 53 "Siddhārthin" . . . | 52 "Kālayukta." |
| 4178 | 999 | 1077-78 | A | 54 "Raudra" . . . | 53 "Siddhārthin." |
| 4179 | 1000 | 1078-79 | A | 55 "Durmāti" . . . | 54 "Raudra." |
| 4180 | 1001 | 1079-80 | A | 56 "Dandubhi" . . . | 55 "Durmāti." |
| 4193 | 1014 | 1092-93 | C | 11 Mar. (71), 5 Thur. | 12 Mar. (72), 6 Fri. |
| 4232 | 1053 | 1131-32 | B | 5 Śrāvaṇa (adh.) . . . | 4 Āshādha (adh.) |
| 4251 | 1072 | 1150-51 | B | 5 Śrāvaṇa (adh.) . . . | 4 Āshādha (adh.) |
| 4258 | 1077 | 1155-56 | B | Nā . . . | 12 Phālguna (adh.) |
| 4257 | 1078 | 1156-57 | B | 1 Chaitra (adh.) . . . | Nā . . . |
| id. | id. | id. | C | 23 Feb. (54), 5 Thur. | 24 Mar. (84), 6 Sat. |
| 4262 | 1083 | 1161-62 | A | 19 "Pārthiva" . . . | 18 "Tāraka." |
| 4263 | 1084 | 1162-63 | A | 20 "Vyaya" . . . | 19 "Pārthiva." |
| 4264 | 1085 | 1163-64 | A | 21 "Sarvajit" . . . | 20 "Vyaya." |
| 4265 | 1086 | 1164-65 | A | 22 "Sarvadhārin" . . . | 21 "Sarvajit." |
| 4313 | 1134 | 1212-13 | B | 7 Āsvina (adh.) . . . | 7 Āsvina (adh.) |
| | | | | 11 Māgha (ksh.) . . . | |
| | | | | 12 Phālguna (adh.) . . . | |
| 4348 | 1169 | 1247-48 | A | 46 "Paridhāvin" . . . | 45 "Virṇāhkrīt." |
| 4349 | 1170 | 1248-49 | A | 47 "Pramādin" . . . | 46 "Paridhāvin." |
| 4350 | 1171 | 1249-50 | A | 48 "Ānanda" . . . | 47 "Pramādin." |
| 4351 | 1172 | 1250-51 | A | 49 "Rākṣasa" . . . | 48 "Ānanda." |
| 4356 | 1177 | 1255-56 | C | 11 Mar. (70) 5 Thur. | 10 Mar. (69), 4 Wed. |
| 4378 | 1199 | 1277-78 | B | 9 Mārgaśira (adh.) . . . | 8 Kārttika (adh.) |
| | | | | 10 Pausa (ksh.) . . . | 10 Pausa (ksh.) |
| | | | | 12 Phālguna (adh.) . . . | 12 Phālguna (adh.) |
| 4397 | 1218 | 1296-97 | B | 12 Phālguna (adh.) . . . | 9 Mārgaśira (adh.) |
| | | | | | 10 Pausa (ksh.) |
| | | | | | 12 Phālguna (adh.) |

TABLE A—Contd.

| K. Y. expired. | Saka expired. | A. D. | Class. | FIXTURES ACCORDING TO THE | |
|-------------------|------------------|---------|--------|--|---|
| | | | | First Ārya-Siddhanta. | Sārya-Siddhanta. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 4416 | 1237 | 1315-16 | B | 12 Phālguna (adh.) | { 8 Kārttika (adh.) 9 Mārgaśīra (ksh.) 12 Phālguna (adh.) } |
| 4433 | 1254 | 1332-33 | A | 12 " Bahudhānya " | 11 " Iśvara." |
| 4434 | 1255 | 1333-34 | A | 13 " Pramāthīn " | 12 " Bahudhānya." |
| 4435 | 1256 | 1334-35 | A | 14 " Vikrama " | 13 " Pramāthīn." |
| 4436 | 1257 | 1335-36 | A | 15 " Vṛiṣha " | 14 " Vikrama." |
| 4454 | 1275 | 1353-54 | B | { 7 Āsvina (adh.) 11 Māgha (ksh.) 12 Phālguna (adh.) } | { 6 Bhādrapada (adh.) } |
| 4471 | 1292 | 1370-71 | B | 3 Jyēṣṭha (adh.) | 2 Vaiśākha (adh.) |
| 4481 | 1302 | 1380-81 | B | Nā. | { 8 Kārttika (adh.) 9 Mārgaśīra (ksh.) } |
| 4492 | 1313 | 1391-92 | B | 7 Āsvina (adh.) | 6 Bhādrapada (adh.) |
| 4509 | 1330 | 1408-9 | B | 3 Jyēṣṭha (adh.) | 2 Vaiśākha (adh.) |
| 4511 | 1332 | 1410-11 | B | 7 Āsvina (adh.) | 6 Bhādrapada (adh.) |
| 4518 | 1339 | 1417-18 | A | 38 " Krōdhin " | 37 " Śōbhana." |
| 4519 | 1340 | 1418-19 | A | 39 " Viśvāvasu " | 38 " Krōdhin." |
| id. | id. | id. | B | { 8 Kārttika (adh.) 11 Māgha (ksh.) 12 Phālguna (adh.) } | { 8 Kārttika (adh.) } |
| 4520 | 1341 | 1419-20 | A | 40 " Parābhava " | 39 " Viśvāvasu." |
| 4521 | 1342 | 1420-21 | A | 41 " Plavaśga " | 40 " Parābhava." |
| 4537 | 1358 | 1436-37 | C | 18 Mar. (78), 1 Sun. | 19 Mar. (79), 2 Mon. |
| 4537 | 1378 | 1456-57 | B | { 8 Kārttika (adh.) 10 Pausa (ksh.) 12 Phālguna (adh.) } | { 8 Kārttika (adh.) } |
| 4566 | 1387 | 1465-66 | B | 2 Vaiśākha (adh.) | 1 Chaitra (adh.) |
| 4574 | 1395 | 1473-74 | C | 28 Feb. (59), 1 Sun. | 27 Feb. (58), 0 Sat. |
| 4576 | 1397 | 1475-76 | B | { 7 Āsvina (adh.) 10 Pausa (ksh.) 12 Phālguna (adh.) } | { 7 Āsvina (adh.) 11 Māgha (ksh.) 12 Phālguna (adh.) } |
| 4587 | 1408 | 1486-87 | B | 6 Bhādrapada (adh.) | 5 Śrāvaṇa (adh.) |
| 4603 | 1424 | 1502-3 | A | 4 " Pramōda " | 3 " Sukla." |
| 4604 | 1425 | 1503-4 | A | 5 " Prajāpati " | 4 " Pramōda." |
| id. | id. | id. | B | 2 Vaiśākha (adh.) | 1 Chaitra (adh.) |
| 4605 | 1426 | 1504-5 | A | 6 " Āngīra " | 5 " Prajāpati." |
| 4606 | 1427 | 1505-6 | A | 7 " Śrīmukha " | 6 " Āngīra." |
| id. | id. | id. | B | 6 Bhādrapada (adh.) | 5 Śrāvaṇa (adh.) |
| 4607 | 1428 | 1506-7 | A | 8 " Bhāva " | 7 " Śrīmukha." |
| 4608 | 1429 | 1507-8 | A | 9 " Yuvan " | 8 " Bhāva." |
| 4609 | 1430 | 1508-9 | A | 10 " Dhātṛi " | 9 " Yuvan." |
| 4610 | 1431 | 1509-10 | A | 11 " Iśvara " | 10 " Dhātṛi." |
| 4611 | 1432 | 1510-11 | A | 12 " Bahudhānya " | 11 " Iśvara." |
| 4612 | 1433 | 1511-12 | A | 13 " Pramāthīn " | 12 " Bahudhānya." |
| 4613 | 1434 | 1512-13 | A | 14 " Vikrama " | 13 " Pramāthīn." |
| 4614 | 1435 | 1513-14 | A | 15 " Vṛiṣha " | 14 " Vikrama." |
| 4615 | 1436 | 1514-15 | A | 16 " Chitrabhāra " | 15 " Vṛiṣha." |
| 4622 | 1443 | 1521-22 | B | Nā. | { 8 Kārttika (adh.) 9 Mārgaśīra (ksh.) } |

TABLE A—Contd.

| Y. expired. | Saka expired. | A. D. | Class. | FIXTURES ACCORDING TO THE | |
|----------------|------------------|-----------|--------|------------------------------|------------------------------|
| | | | | First Ārya-Siddhānta. | Sūrya-Siddhānta. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 4644 | 1465 | 1543-44 | B | 6 Bhādrapada (adh.) . . . | 5 Śrāvapa (adh.) . . . |
| 4659 | 1480 | 1558-59 | C | 21 Mar. (80), 2 Mon. . . . | 20 Mar. (79), 1 Sun. . . |
| 4660 | 1481 | 1559-60 | B | 8 Kārttika (adh.) | 7 Āśvina (adh.) |
| 4679 | 1500 | 1578-79 | B | 11 Māgha (adh.) | 12 Phālguna (adh.) |
| 4682 | 1503 | 1581-82 | C | 8 Kārttika (adh.) | 7 Āśvina (adh.) |
| 4689 | 1510 | 1588-89 | A | 6 Mar. (65), 2 Mon. . . . | 5 Mar. (64), 1 Sun. . . . |
| 4690 | 1511 | 1589-90 | A | 31 " Hēmalamba " | 30 " Durvukha " |
| 4691 | 1512 | 1590-91 | A | 32 " Vilamba " | 31 " Hēmalamba " |
| 4692 | 1513 | 1591-92 | A | 33 " Vikārin " | 32 " Vilamba " |
| 4693 | 1514 | 1592-93 | A | 34 " Śārvarin " | 33 " Vikārin " |
| 4694 | 1515 | 1593-94 | A | 35 " Plava " | 34 " Śārvarin " |
| 4695 | 1516 | 1594-95 | A | 36 " Subhakrit " | 35 " Plava " |
| 4696 | 1517 | 1595-96 | A | 37 " Śōbhana " | 36 " Subhakrit " |
| 4697 | 1518 | 1596-97 | A | 38 " Krōdhin " | 37 " Śōbhana " |
| 4698 | 1519 | 1597-98 | A | 39 " Viśvāvasu " | 38 " Krōdhin " |
| id. | id. | id. | B | 40 " Parābhava " | 39 " Viśvāvasu " |
| 4699 | 1520 | 1598-99 | A | 8 Kārttika (adh.) | 7 Āśvina (adh.) |
| 4700 | 1521 | 1599-1600 | A | 41 " Plavaṅga " | 40 " Parābhava " |
| 4701 | 1522 | 1600-1 | A | 42 " Kīlaka " | 41 " Plavaṅga " |
| 4720 | 1541 | 1619-20 | C | 43 " Saumya " | 42 " Kīlaka " |
| 4731 | 1552 | 1630-31 | C | 7 Mar. (66), 1 Sun. . . . | 6 Mar. (65), 0 Sat. . . . |
| 4754 | 1575 | 1653-54 | C | 4 Mar. (63), 5 Thur. . . . | 5 Mar. (64), 6 Fri. . . . |
| 4757 | 1578 | 1656-57 | C | 20 Mar. (79), 1 Sun. . . . | 19 Mar. (78), 0 Sat. . . . |
| 4773 | 1594 | 1672-73 | C | 17 Mar. (77), 2 Mon. . . . | 16 Mar. (76), 1 Sun. . . . |
| 4774 | 1595 | 1673-74 | A | 20 Mar. (80), 4 Wed. . . . | 19 Mar. (79), 3 Thur. . . . |
| 4775 | 1596 | 1674-75 | A | 57 " Rudhirōdgārin " | 56 " Dundubhi " |
| 4776 | 1597 | 1675-76 | A | 58 " Raktāksha " | 57 " Rudhirōdgārin " |
| 4777 | 1598 | 1676-77 | A | 59 " Krōdhana " | 58 " Raktāksha " |
| 4778 | 1599 | 1677-78 | A | 60 " Kshaya " | 59 " Krōdhana " |
| 4779 | 1600 | 1678-79 | A | 1 " Prabhava " | 60 " Kshaya " |
| 4780 | 1601 | 1679-80 | A | 2 " Vibhava " | 1 " Prabhava " |
| 4781 | 1602 | 1680-81 | A | 3 " Sukla " | 2 " Vibhava " |
| 4782 | 1603 | 1681-82 | A | 4 " Pramōda " | 3 " Sukla " |
| 4783 | 1604 | 1682-83 | A | 5 " Prajāpati " | 4 " Pramōda " |
| 4784 | 1605 | 1683-84 | A | 6 " Āngiras " | 5 " Prajāpati " |
| 4785 | 1606 | 1684-85 | A | 7 " Śrīmukha " | 6 " Āngiras " |
| 4786 | 1607 | 1685-86 | A | 8 " Bhāva " | 7 " Śrīmukha " |
| 4801 | 1622 | 1700-1 | B | 9 " Yuvan " | 8 " Bhāva " |
| 4802 | 1623 | 1701-2 | B | 7 Āśvina (adh.) | 7 Āśvina (adh.) |
| id. | id. | id. | C | 11 Māgha (adh.) | 11 Māgha (adh.) |
| 4807 | 1628 | 1706-7 | B | 1 Chaitra (adh.) | NIL |
| 4810 | 1640 | 1718-19 | C | 27 Feb. (58), 5 Thur. . . . | 29 Mar. (88), 0 Sat. . . . |
| 4826 | 1647 | 1725-26 | B | 4 Āshāḍha (adh.) | 3 Jyēṣṭha (adh.) |
| 4858 | 1679 | 1757-58 | A | 22 " Sarvadhārin " | 21 " Sarvañi " |
| 4859 | 1680 | 1758-59 | A | 23 " Virōdhin " | 22 " Sarvadhārin " |
| 4860 | 1681 | 1759-60 | A | 24 " Vikṛita " | 23 " Virōdhin " |

TABLE A—Contd.

| K. Y. expired. | Saka expired. | A. D. | Class. | FIXTURES ACCORDING TO THE | |
|-------------------|------------------|---------|--------|---------------------------|-----------------------|
| | | | | First Ārya-Siddhānta. | Sūrya-Siddhānta. |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 4861 | 1682 | 1660-61 | A | 25 " Khara " | 24 " Vikṛita " |
| 4862 | 1683 | 1761-62 | A | 26 " Nandana " | 25 " Khara " |
| 4863 | 1684 | 1762-63 | A | 27 " Vijaya " | 26 " Nandana " |
| 4864 | 1685 | 1763-64 | A | 28 " Jaya " | 27 " Vijaya " |
| Do. | Do. | Do. | B | 4 Āshādha (adh.) | 3 Jyēṣṭha (adh.) |
| 4865 | 1686 | 1764-65 | A | 29 " Manmatha " | 28 " Jaya " |
| 4866 | 1687 | 1765-66 | A | 30 " Durmukha " | 29 " Manmatha " |
| 4867 | 1688 | 1766-67 | A | 31 " Hēmalamba " | 30 " Durmukha " |
| 4868 | 1689 | 1767-68 | A | 32 " Vilamba " | 31 " Hēmalamba " |
| 4869 | 1690 | 1768-69 | A | 33 " Vikārin " | 32 " Vilamba " |
| 4870 | 1691 | 1769-70 | A | 34 " Śārvarin " | 33 " Vikārin " |
| 4871 | 1692 | 1770-71 | A | 35 " Plava " | 34 " Śārvarin " |
| 4872 | 1693 | 1771-72 | A | 36 " Śubhakṛit " | 35 " Plava " |
| 4877 | 1698 | 1776-77 | B | 7 Āsvina (adh.) | 6 Bhādrapada (adh.) |
| 4882 | 1703 | 1781-82 | C | 26 Mar. (85), 2 Mon. | 25 Mar. (84), 1 Sun. |
| 4883 | 1704 | 1782-83 | C | 15 Mar. (74), 6 Fri. | Mar. (73), 5 Thur. |
| 4912 | 1763 | 1841-42 | B | (7 Āsvina (adh.)) | 7 Āsvina (adh.) |
| 4913 | 1764 | 1842-43 | B | (11 Magha (ksh.)) | |
| 4943 | 1764 | 1842-43 | B | 1 Chaitra (adh.) | Nil. |
| Do. | Do. | Do. | C | 13 Mar. (72), 1 Sun. | 11 Apr. (101), 2 Mon. |
| 4944 | 1765 | 1843-44 | A | 49 " Rākshasa " | 48 " Ānanda " |
| Do. | Do. | Do. | C | 1 Apr. (91), 0 Sat. | 31 Mar. (90), 6 Fri. |
| 4945 | 1766 | 1844-45 | A | 50 " Anala " | 49 " Rākshasa " |
| Do. | Do. | Do. | C | 20 Mar. (80), 4 Wed | 19 Mar. (79), 3 Tues. |
| 4946 | 1767 | 1845-46 | A | 51 " Pingala " | 50 " Anala " |
| 4947 | 1768 | 1846-47 | A | 52 " Kālayukta " | 51 " Pingala " |
| 4948 | 1769 | 1847-48 | A | 53 " Siddhārthin " | 52 " Kālayukta " |
| 4949 | 1770 | 1848-49 | A | 54 " Raudra " | 53 " Siddhārthin " |
| 4950 | 1771 | 1849-50 | A | 55 " Durmati " | 54 " Raudra " |
| 4951 | 1772 | 1850-51 | A | 56 " Dundubhi " | 55 " Durmati " |
| 4952 | 1773 | 1851-52 | A | 57 " Rudhīrōdgārin " | 56 " Dundubhi " |
| 4953 | 1774 | 1852-53 | A | 58 " Raktāksha " | 57 " Rudhīrōdgārin " |
| 4954 | 1775 | 1853-54 | A | 59 " Krōdhana " | 58 " Raktāksha " |
| 4955 | 1776 | 1854-55 | A | 60 " Kshaya " | 59 " Krōdhana " |
| 4956 | 1777 | 1855-56 | A | 1 " Prabhava " | 60 " Kshaya " |
| 4957 | 1778 | 1856-57 | A | 2 " Vibhava " | 1 " Prabhava " |
| 4973 | 1794 | 1872-73 | C | 9 Apr. (100), 3 Tues | 8 Apr. (99), 2 Mon. |

TABLE LXI.

NOTES.

Cols. 1 to 4.—The present Table states the *concurrent* years so as exactly to correspond with Table I of the "Indian Calendar" and in that respect to save trouble for those who have become accustomed to use that publication. The year usually quoted in inscriptions is the *expired* year, though sometimes the concurrent year is given; *e.g.*, the year A.D. 899-900 corresponds to the concurrent years K. Y. 4001, Saka 822, but to the expired years K. Y. 4000, Śaka 821.

Col. 8.—All the entries are of intercalated (*adhika*) months, except those in italics, which are suppressed (*kṣhaya*) months.

A List of instances wherein important details the Ārya and Sūrya Siddhāntas differ is given in Table A, pages 248-251.

It has not been thought necessary to include in this Table the years between A.D. 499 and 899. This paper concerns computation by the true motions of sun and moon, and it is practically certain that prior, at least, to the latter date all calculations for almanacs in India were made by mean planetary motions.

TABLE

GENERAL TABLE FOR CALCULATION

Conforming to Table I "Indian Calendar,"

Entries in italics in Column 7 shew where, in the Northern system, samvatsara-

* = Leap-years of 366 days.

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4001 | 822 | 957 | 306 | 74-75 | 899-900 | 53 Siddhārthin . | 53 Siddhārthin . | ... |
| 4002 | 823 | 958 | 307 | 75-76 | *900-01 | 54 Raudra . | 54 Raudra . | ... |
| 4003 | 824 | 959 | 308 | 76-77 | 901-02 | 55 Durmati . | 55 Durmati . | 2 Vaiśākha . |
| 4004 | 825 | 960 | 309 | 77-78 | 902-03 | 56 Dundubhi . | 56 Dundubhi . | ... |
| 4005 | 826 | 961 | 310 | 78-79 | 903-04 | 57 Rudhirōdgārin | 57 Rudhirōdgārin | 6 Bhādrapada |
| 4006 | 827 | 962 | 311 | 79-80 | *904-05 | 58 Raktāksha . | 58 Raktāksha . | ... |
| 4007 | 828 | 963 | 312 | 80-81 | 905-06 | 59 Krōdhana . | 59 Krōdhana† . | ... |
| 4008 | 829 | 964 | 313 | 81-82 | 906-07 | 60 Kshaya . | 1 Prabhava . | 5 Śrāvapa . |
| 4009 | 830 | 965 | 314 | 82-83 | 907-08 | 1 Prabhava . | 2 Vibhava . | ... |
| 4010 | 831 | 966 | 315 | 83-84 | *908-09 | 2 Vibhava . | 3 Śukla . | ... |
| 4011 | 832 | 967 | 316 | 84-85 | 909-10 | 3 Śukla . | 4 Pramōda . | 3 Jyēṣṭha |
| 4012 | 833 | 968 | 317 | 85-86 | 910-11 | 4 Pramōda . | 5 Prajāpati . | ... |
| 4013 | 834 | 969 | 318 | 86-87 | 911-12 | 5 Prajāpati . | 6 Aṅgīras . | { 7 Āśvina 10 Pausa (Jyā) } |
| 4014 | 835 | 970 | 319 | 87-88 | *912-13 | 6 Aṅgīras . | 7 Śrīmukha . | |
| 4015 | 836 | 971 | 320 | 88-89 | 913-14 | 7 Śrīmukha . | 8 Bhāva . | ... |
| 4016 | 837 | 972 | 321 | 89-90 | 914-15 | 8 Bhāva . | 9 Yuvan . | 5 Śrāvapa . |
| 4017 | 838 | 973 | 322 | 90-91 | 915-16 | 9 Yuvan . | 10 Dhātṛi . | ... |
| 4018 | 839 | 974 | 323 | 91-92 | *916-17 | 10 Dhātṛi . | 11 Isvara . | ... |
| 4019 | 840 | 975 | 324 | 92-93 | 917-18 | 11 Isvara . | 12 Bahudhānya . | 4 Āshāḍha . |
| 4020 | 841 | 976 | 325 | 93-94 | 918-19 | 12 Bahudhānya | 13 Pramāthin . | ... |
| 4021 | 842 | 977 | 326 | 94-95 | 919-20 | 13 Pramāthin | 14 Vikrama | ... |

† 60 Kshaya was suppressed in the north.

LXI.

BY THE FIRST ARYA-SIDDHANTA.

the columns being similarly numbered.

names of solar years differ from those given by followers of the Sūrya-Siddhānta.

Cols. 13, 19.—Figures in brackets=number of civil days measured from January 1st.

| COMMENCEMENT OF THE | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 5 Thur. | 13 47 30 | 16 Mar. (75) | 6 Fri. | 9939-8668 | 196-5305 | 259-4537 | 4001 |
| 21 Mar. (81) | 6 Fri. | 20 0 0 | 4 Mar. (64) | 3 Tues. | 9815-5502 | 43-7653 | 228-6299 | 4002 |
| 22 Mar. (81) | 1 Sun. | 2 12 30 | 22 Feb. (53) | 1 Sun. | 29-8654 | 927-2917 | 200-5438 | 4003 |
| 22 Mar. (81) | 2 Mon. | 8 25 0 | 13 Mar. (72) | 0 Sat. | 64-6051 | 863-2752 | 251-8535 | 4004 |
| 22 Mar. (81) | 3 Tues. | 14 37 30 | 3 Mar. (62) | 5 Thur. | 278-8203 | 746-8017 | 223-7674 | 4005 |
| 21 Mar. (81) | 4 Wed. | 20 50 0 | 20 Mar. (80) | 3 Tues. | 9974-8281 | 646-4936 | 272-3393 | 4006 |
| 22 Mar. (81) | 6 Fri. | 3 2 30 | 10 Mar. (69) | 1 Sun. | 189-1433 | 530-0200 | 244-2533 | 4007 |
| 22 Mar. (81) | 0 Sat. | 9 15 0 | 27 Feb. (58) | 5 Thur. | 64-8268 | 377-2548 | 213-4295 | 4008 |
| 22 Mar. (81) | 1 Sun. | 15 27 30 | 17 Mar. (76) | 3 Tues. | 9760-8345 | 276-9467 | 262-0014 | 4009 |
| 21 Mar. (81) | 2 Mon. | 21 40 0 | 6 Mar. (66) | 1 Sun. | 9975-1497 | 160-4731 | 233-9153 | 4010 |
| 22 Mar. (81) | 4 Wed. | 3 52 30 | 23 Feb. (54) | 5 Thur. | 9850-8331 | 7-7079 | 203-0914 | 4011 |
| 22 Mar. (81) | 5 Thur. | 10 5 0 | 14 Mar. (73) | 4 Wed. | 9885-4728 | 943-6915 | 254-4011 | 4012 |
| 22 Mar. (81) | 6 Fri. | 16 17 30 | 4 Mar. (63) | 2 Mon. | 99-7880 | 827-2178 | 226-3151 | 4013 |
| 21 Mar. (81) | 0 Sat. | 22 30 0 | 22 Feb. (53) | 0 Sat. | 314-1033 | 710-7442 | 198-2290 | 4014 |
| 22 Mar. (81) | 2 Mon. | 4 42 30 | 11 Mar. (70) | 5 Thur. | 10-1109 | 610-4362 | 246-8010 | 4015 |
| 22 Mar. (81) | 3 Tues. | 10 55 0 | 28 Feb. (59) | 2 Mon. | 9885-7943 | 457-6710 | 215-9771 | 4016 |
| 22 Mar. (81) | 4 Wed. | 17 7 30 | 19 Mar. (78) | 1 Sun. | 9920-4340 | 393-6545 | 267-2868 | 4017 |
| 21 Mar. (81) | 5 Thur. | 23 20 0 | 7 Mar. (67) | 5 Thur. | 9796-1174 | 240-8893 | 236-4269 | 4018 |
| 22 Mar. (81) | 0 Sat. | 5 32 30 | 25 Feb. (56) | 3 Tues. | 10-4326 | 124-4158 | 208-3769 | 4019 |
| 22 Mar. (81) | 1 Sun. | 11 45 0 | 16 Mar. (75) | 2 Mon. | 45-0722 | 60-3992 | 259-3866 | 4020 |
| 22 Mar. (81) | 2 Mon. | 17 57 30 | 5 Mar. (64) | 6 Fri. | 9920-7556 | 907-6340 | 228-4628 | 4021 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4022 | 843 | 978 | 327 | 95-96 | *920-21 | 14 Vikrama . | 15 Vṛisha . | 2 Vaiśākha . |
| 4023 | 844 | 979 | 328 | 96-97 | 921-22 | 15 Vṛisha . | 16 Chitrabhānu . | ... |
| 4024 | 845 | 980 | 329 | 97-98 | 922-23 | 16 Chitrabhānu . | 17 Subhānu . | 6 Bhādrapada |
| 4025 | 846 | 981 | 330 | 98-99 | 923-24 | 17 Subhānu . | 18 Tāraka . | ... |
| 4026 | 847 | 982 | 331 | 99-100 | *924-25 | 18 Tāraka . | 19 Pārthiva . | ... |
| 4027 | 848 | 983 | 332 | 100-01 | 925-26 | 19 Pārthiva . | 20 Vyaya . | 4 Āshāḍha . |
| 4028 | 849 | 984 | 333 | 101-02 | 926-27 | 20 Vyaya . | 21 Sarvajit . | ... |
| 4029 | 850 | 985 | 334 | 102-03 | 927-28 | 21 Sarvajit . | 22 Sarvadhārin . | ... |
| 4030 | 851 | 986 | 335 | 103-04 | *928-29 | 22 Sarvadhārin . | 23 Virōdhin . | 3 Jyēṣṭha . |
| 4031 | 852 | 987 | 336 | 104-05 | 929-30 | 23 Virōdhin . | 24 Vikṛita . | ... |
| 4032 | 853 | 988 | 337 | 105-06 | 930-31 | 24 Vikṛita . | 25 Khara . | 7 Āśvina . |
| 4033 | 854 | 989 | 338 | 106-07 | 931-32 | 25 Khara . | 26 Nandana . | ... |
| 4034 | 855 | 990 | 339 | 107-08 | *932-33 | 26 Nandana . | 27 Vijaya . | ... |
| 4035 | 856 | 991 | 340 | 108-09 | 933-34 | 27 Vijaya . | 28 Jaya . | 5 Śrāvaṇa . |
| 4036 | 857 | 992 | 341 | 109-10 | 934-35 | 28 Jaya . | 29 Manmatha . | ... |
| 4037 | 858 | 993 | 342 | 110-11 | 935-36 | 29 Manmatha . | 30 Durmukha . | ... |
| 4038 | 859 | 994 | 343 | 111-12 | *936-37 | 30 Durmukha . | 31 Hēmalamba . | 3 Jyēṣṭha . |
| 4039 | 860 | 995 | 344 | 112-13 | 937-38 | 31 Hēmalamba . | 32 Vilamba . | ... |
| 4040 | 861 | 996 | 345 | 113-14 | 938-39 | 32 Vilamba . | 33 Vikārin . | ... |
| 4041 | 862 | 997 | 346 | 114-15 | 939-40 | 33 Vikārin . | 34 Śārvarin . | 2 Vaiśākha . |
| 4042 | 863 | 998 | 347 | 115-16 | *940-41 | 34 Śārvarin . | 35 Plava . | ... |
| 4043 | 864 | 999 | 348 | 116-17 | 941-42 | 35 Plava . | 36 Subhakarit . | 6 ¹ Bhādrapada |
| 4044 | 865 | 1000 | 349 | 117-18 | 942-43 | 36 Subhakarit . | 37 Śobhana . | ... |
| 4045 | 866 | 1001 | 350 | 118-19 | 943-44 | 37 Śobhana . | 38 Krōdhin . | ... |
| 4046 | 867 | 1002 | 351 | 119-20 | *944-45 | 38 Krōdhin . | 39 Viśvāvasu . | 4 Āshāḍha . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | JUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (82) | 4 Wed. | 0 10 0 | 23 Feb. (54) | 4 Wed. | 135-0709 | 791-1625 | 300-7767 | 4022 |
| 22 Mar. (81) | 5 Thur. | 6 22 30 | 13 Mar. (72) | 3 Tues. | 169-7105 | 727-1460 | 252-0864 | 4023 |
| 22 Mar. (81) | 6 Fri. | 12 35 0 | 2 Mar. (61) | 0 Sat. | 45-3939 | 574-3808 | 221-2635 | 4024 |
| 22 Mar. (81) | 0 Sat. | 18 47 30 | 21 Mar. (80) | 6 Fri. | 80-0335 | 510-3623 | 272-5722 | 4025 |
| 22 Mar. (82) | 2 Mon. | 1 0 0 | 9 Mar. (69) | 3 Tues. | 9955-7169 | 357-5972 | 241-7524 | 4026 |
| 22 Mar. (81) | 3 Tues. | 7 12 30 | 26 Feb. (57) | 0 Sat. | 9831-4003 | 204-8339 | 210-9246 | 4027 |
| 22 Mar. (81) | 4 Wed. | 13 25 0 | 17 Mar. (76) | 6 Fri. | 9866-0399 | 140-8154 | 262-2323 | 4028 |
| 22 Mar. (81) | 5 Thur. | 19 37 30 | 7 Mar. (66) | 4 Wed. | 80-3551 | 24-3419 | 234-1482 | 4029 |
| 22 Mar. (82) | 0 Sat. | 1 50 0 | 24 Feb. (55) | 1 Sun. | 9956-0385 | 871-5766 | 303-3243 | 4030 |
| 22 Mar. (81) | 1 Sun. | 8 2 30 | 14 Mar. (73) | 0 Sat. | 9990-6782 | 867-5702 | 254-6340 | 4031 |
| 22 Mar. (81) | 2 Mon. | 14 15 0 | 4 Mar. (63) | 5 Thur. | 204-9934 | 691-0866 | 226-5480 | 4032 |
| 22 Mar. (81) | 3 Tues. | 20 27 30 | 23 Mar. (82) | 4 Wed. | 239-6531 | 627-0701 | 277-8577 | 4033 |
| 22 Mar. (82) | 5 Thur. | 2 40 0 | 11 Mar. (71) | 1 Sun. | 115-3164 | 474-3049 | 247-0330 | 4034 |
| 22 Mar. (81) | 6 Fri. | 8 52 30 | 28 Feb. (59) | 5 Thur. | 9990-9998 | 321-3397 | 216-2100 | 4035 |
| 22 Mar. (81) | 0 Sat. | 15 5 0 | 19 Mar. (78) | 4 Wed. | 25-6394 | 257-8149 | 270-2575 | 4036 |
| 22 Mar. (81) | 1 Sun. | 21 17 30 | 8 Mar. (67) | 1 Sun. | 9901-3228 | 104-7580 | 236-6058 | 4037 |
| 22 Mar. (82) | 3 Tues. | 3 30 0 | 26 Feb. (57) | 6 Fri. | 115-6381 | 988-2845 | 208-6098 | 4038 |
| 22 Mar. (81) | 4 Wed. | 9 42 30 | 16 Mar. (75) | 5 Thur. | 150-2777 | 924-2680 | 259-9195 | 4039 |
| 22 Mar. (81) | 5 Thur. | 15 55 0 | 5 Mar. (64) | 2 Mon. | 25-0611 | 771-5027 | 229-0957 | 4040 |
| 22 Mar. (81) | 6 Fri. | 22 7 30 | 23 Feb. (54) | 0 Sat. | 240-2763 | 655-0292 | 261-0096 | 4041 |
| 22 Mar. (82) | 1 Sun. | 4 20 0 | 12 Mar. (72) | 5 Thur. | 9936-2841 | 554-7211 | 240-5816 | 4042 |
| 22 Mar. (81) | 2 Mon. | 10 32 30 | 1 Mar. (60) | 2 Mon. | 9811-9675 | 401-9560 | 218-7576 | 4043 |
| 22 Mar. (81) | 3 Tues. | 16 45 0 | 20 Mar. (79) | 1 Sun. | 9846-6072 | 337-9394 | 270-0674 | 4044 |
| 22 Mar. (81) | 4 Wed. | 22 57 30 | 9 Mar. (68) | 5 Thur. | 9722-3005 | 185-1742 | 239-9517 | 4045 |
| 22 Mar. (82) | 6 Fri. | 5 10 0 | 27 Feb. (58) | 3 Tues. | 9936-6057 | 68-7007 | 211-1575 | 4046 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kabaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4047 | 868 | 1003 | 352 | 120-21 | 945-46 | 39 Viśvāvasa . | 40 Parābhava . | ... |
| 4048 | 869 | 1004 | 353 | 121-22 | 946-47 | 40 Parābhava . | 41 Plavaṅga . | ... |
| 4049 | 870 | 1005 | 354 | 122-23 | 947-48 | 41 Plavaṅga . | 42 Kilaka . | 3 Jyēṣṭha . |
| 4050 | 871 | 1006 | 355 | 123-24 | *948-49 | 42 Kilaka . | 43 Saumya . | ... |
| 4051 | 872 | 1007 | 356 | 124-25 | 949-50 | 43 Saumya . | 44 Sādhāraṇa . | 7 Āvina . |
| 4052 | 873 | 1008 | 357 | 125-26 | 950-51 | 44 Sādhāraṇa . | 45 Virōdhakṛt . | ... |
| 4053 | 874 | 1009 | 358 | 126-27 | 951-52 | 45 Virōdhakṛt . | 46 Paridhāvin . | ... |
| 4054 | 875 | 1010 | 359 | 127-28 | *952-53 | 46 Paridhāvin . | 47 Pramādin . | 5 Śrāvaga . |
| 4055 | 876 | 1011 | 360 | 128-29 | 953-54 | 47 Pramādin . | 48 Ānanda . | ... |
| 4056 | 877 | 1012 | 361 | 129-30 | 954-55 | 48 Ānanda . | 49 Rākṣasa . | ... |
| 4057 | 878 | 1013 | 362 | 130-31 | 955-56 | 49 Rākṣasa . | 50 Anala . | 3 Jyēṣṭha . |
| 4058 | 879 | 1014 | 363 | 131-32 | *956-57 | 50 Anala . | 51 Piṅgala . | ... |
| 4059 | 880 | 1015 | 364 | 132-33 | 957-58 | 51 Piṅgala . | 52 Kālayukta . | ... |
| 4060 | 881 | 1016 | 365 | 133-34 | 958-59 | 52 Kālayukta . | 53 Siddhārthin . | 2 Vaiśākha . |
| 4061 | 882 | 1017 | 366 | 134-35 | 959-60 | 53 Siddhārthin . | 54 Raudra . | ... |
| 4062 | 883 | 1018 | 367 | 135-36 | *960-61 | 54 Raudra . | 55 Durmati . | 6 Bhādrapada . |
| 4063 | 884 | 1019 | 368 | 136-37 | 961-62 | 55 Durmati . | 56 Dundubhī . | ... |
| 4064 | 885 | 1020 | 369 | 137-38 | 962-63 | 56 Dundubhī . | 57 Rudhirōdgārin . | ... |
| 4065 | 886 | 1021 | 370 | 138-39 | 963-64 | 57 Rudhirōdgārin . | 58 Raktākṣa . | 4 Āṣāḍha . |
| 4066 | 887 | 1022 | 371 | 139-40 | *964-65 | 58 Raktākṣa . | 59 Krōdhana . | ... |
| 4067 | 888 | 1023 | 372 | 140-41 | 965-66 | 59 Krōdhana . | 60 Kabaya . | ... |
| 4068 | 889 | 1024 | 373 | 141-42 | 966-67 | 60 Kabaya . | 1 Prabhava . | 3 Jyēṣṭha . |
| 4069 | 890 | 1025 | 374 | 142-43 | 967-68 | 1 Prabhava . | 2 Vibhava . | ... |
| 4070 | 891 | 1026 | 375 | 143-44 | *968-69 | 2 Vibhava . | 3 Śukla . | 7 Āvina . |
| 4071 | 892 | 1027 | 376 | 144-45 | 969-70 | 3 Śukla . | 4 Pramōda . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week- day. | Time of true Mṛgha- sankranti. | Day and month, A.D. | Week- day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 0 Sat. . | 11 22 30 | 17 Mar. (76) | 2 Mon. . | 9972-2453 | 4-6841 | 262-4672 | 4047 |
| 22 Mar. (81) | 1 Sun. . | 17 35 0 | 7 Mar. (66) | 0 Sat. . | 185-5605 | 888-2106 | 234-3811 | 4048 |
| 22 Mar. (81) | 2 Mon. . | 23 47 30 | 24 Feb. (55) | 4 Wed. | 61-2440 | 735-4454 | 203-3584 | 4049 |
| 22 Mar. (82) | 4 Wed. | 6 0 0 | 14 Mar. (74) | 3 Tues. | 95-8836 | 671-4290 | 254-8669 | 4050 |
| 22 Mar. (81) | 5 Thur. | 12 12 30 | 3 Mar. (62) | 0 Sat. . | 9971-5669 | 518-6637 | 224-0431 | 4051 |
| 22 Mar. (81) | 6 Fri. . | 18 25 0 | 22 Mar. (81) | 6 Fri. . | 6-2066 | 454-6473 | 275-3528 | 4052 |
| 23 Mar. (82) | 1 Sun. . | 0 37 30 | 11 Mar. (70) | 3 Tues. | 9881-8899 | 301-8921 | 244-5290 | 4053 |
| 22 Mar. (82) | 2 Mon. . | 6 50 0 | 28 Feb. (59) | 0 Sat. . | 9757-5734 | 149-1168 | 213-7052 | 4054 |
| 22 Mar. (81) | 3 Tues. | 13 2 30 | 18 Mar. (77) | 6 Fri. . | 9792-2130 | 85-1004 | 265-0148 | 4055 |
| 22 Mar. (81) | 4 Wed. | 19 15 0 | 8 Mar. (67) | 4 Wed. | 6-5282 | 968-0268 | 236-9287 | 4056 |
| 23 Mar. (82) | 6 Fri. . | 1 27 30 | 26 Feb. (57) | 2 Mon. . | 220-8435 | 852-1532 | 208-8427 | 4057 |
| 22 Mar. (82) | 0 Sat. . | 7 40 0 | 16 Mar. (76) | 1 Sun. . | 255-4831 | 788-1367 | 260-1524 | 4058 |
| 22 Mar. (81) | 1 Sun. . | 13 52 30 | 5 Mar. (64) | 5 Thur. | 131-1665 | 635-3715 | 229-3286 | 4059 |
| 22 Mar. (81) | 2 Mon. . | 20 5 0 | 22 Feb. (53) | 2 Mon. . | 6-8499 | 482-6064 | 198-5047 | 4060 |
| 23 Mar. (82) | 4 Wed. | 2 17 30 | 13 Mar. (72) | 1 Sun. . | 41-4895 | 418-5898 | 249-8145 | 4061 |
| 22 Mar. (82) | 5 Thur. | 8 30 0 | 1 Mar. (61) | 5 Thur. | 9917-1729 | 265-8247 | 218-9905 | 4062 |
| 22 Mar. (81) | 6 Fri. . | 14 42 30 | 20 Mar. (79) | 4 Wed. | 9951-8125 | 201-8082 | 270-3003 | 4063 |
| 22 Mar. (81) | 0 Sat. . | 20 55 0 | 9 Mar. (68) | 1 Sun. . | 9827-4959 | 49-0429 | 239-4764 | 4064 |
| 23 Mar. (82) | 2 Mon. . | 3 7 30 | 27 Feb. (58) | 6 Fri. . | 41-8112 | 932-5094 | 211-3904 | 4065 |
| 22 Mar. (82) | 3 Tues. | 9 20 0 | 17 Mar. (77) | 5 Thur. | 75-4508 | 868-5529 | 262-7001 | 4066 |
| 22 Mar. (81) | 4 Wed. | 15 32 30 | 7 Mar. (66) | 3 Tues. | 290-7660 | 752-0794 | 234-8440 | 4067 |
| 22 Mar. (81) | 5 Thur. | 21 45 0 | 24 Feb. (55) | 0 Sat. . | 166-4494 | 599-3141 | 203-7901 | 4068 |
| 23 Mar. (82) | 0 Sat. . | 3 57 30 | 15 Mar. (74) | 6 Fri. . | 201-0890 | 535-2977 | 255-0998 | 4069 |
| 22 Mar. (82) | 1 Sun. | 10 10 0 | 3 Mar. (63) | 3 Tues. | 76-7724 | 382-5385 | 224-2760 | 4070 |
| 22 Mar. (81) | 2 Mon. . | 16 22 30 | 21 Mar. (80) | 1 Sun. . | 9772-7802 | 282-2243 | 272-8479 | 4071 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Meshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4072 | 893 | 1028 | 377 | 145-46 | 970-71 | 4 Pramōda . | 5 Prajāpati . | ... |
| 4073 | 894 | 1029 | 378 | 146-47 | 971-72 | 5 Prajāpati . | 6 Aṅgiras . | 5 Śrāvapa . |
| 4074 | 895 | 1030 | 379 | 147-48 | *972-73 | 6 Aṅgiras . | 7 Śrīmukha . | ... |
| 4075 | 896 | 1031 | 380 | 148-49 | 973-74 | 7 Śrīmukha . | 8 Bhāva . | ... |
| 4076 | 897 | 1032 | 381 | 149-50 | 974-75 | 8 Bhāva . | 9 Yuvan . | 4 Āshādha . |
| 4077 | 898 | 1033 | 382 | 150-51 | 975-76 | 9 Yuvan . | 10 Dhātṛī . | ... |
| 4078 | 899 | 1034 | 383 | 151-52 | *976-77 | 10 Dhātṛī . | 11 Iāvana . | ... |
| 4079 | 900 | 1035 | 384 | 152-53 | 977-78 | 11 Iāvana . | 12 Bahudhānya . | 1 Chaitra . |
| 4080 | 901 | 1036 | 385 | 153-54 | 978-79 | 12 Bahudhānya . | 13 Pramāthīn . | ... |
| 4081 | 902 | 1037 | 386 | 154-55 | 979-80 | 13 Pramāthīn . | 14 Vikrama . | 6 Bhādrapada |
| 4082 | 903 | 1038 | 387 | 155-56 | *980-81 | 14 Vikrama . | 15 Vṛisha . | ... |
| 4083 | 904 | 1039 | 388 | 156-57 | 981-82 | 15 Vṛisha . | 16 Chitrabhānu . | ... |
| 4084 | 905 | 1040 | 389 | 157-58 | 982-83 | 16 Chitrabhānu . | 17 Subhānu . | 4 Āshādha . |
| 4085 | 906 | 1041 | 390 | 158-59 | 983-84 | 17 Subhānu . | 18 Tārana . | ... |
| 4086 | 907 | 1042 | 391 | 159-60 | *984-85 | 18 Tārana . | 19 Pārthīva . | ... |
| 4087 | 908 | 1043 | 392 | 160-61 | 985-86 | 19 Pārthīva . | 20 Vyaya . | 3 Jyēṣṭha . |
| 4088 | 909 | 1044 | 393 | 161-62 | 986-87 | 20 Vyaya . | 21 Sarvajit . | ... |
| 4089 | 910 | 1045 | 394 | 162-63 | 987-88 | 21 Sarvajit . | 22 Sarvadhārin . | 7 Āvina . |
| 4090 | 911 | 1046 | 395 | 163-64 | *988-89 | 22 Sarvadhārin . | 23 Virōdhin . | ... |
| 4091 | 912 | 1047 | 396 | 164-65 | 989-90 | 23 Virōdhin . | 24 Vikṛita . | ... |
| 4092 | 913 | 1048 | 397 | 165-66 | 990-91 | 24 Vikṛita . | 25 Khara† . | 5 Śrāvapa . |
| 4093 | 914 | 1049 | 398 | 166-67 | 991-92 | 25 Khara . | 27 Vijaya . | ... |
| 4094 | 915 | 1050 | 399 | 167-68 | *992-93 | 26 Nandana . | 28 Jaya . | ... |
| 4095 | 916 | 1051 | 400 | 168-69 | 993-94 | 27 Vijaya . | 29 Manmatha . | 3 Jyēṣṭha . |
| 4096 | 917 | 1052 | 401 | 169-70 | 994-95 | 28 Jaya . | 30 Darmakha . | ... |

† 26 Nandana was suppressed in the north

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 3 Tues. | 22 35 0 | 11 Mar. (70) | 6 Fri. | 9987-0954 | 165-7508 | 244-7619 | 4072 |
| 23 Mar. (82) | 5 Thur. | 4 47 30 | 28 Feb. (59) | 3 Tues. | 9862-7789 | 12-9856 | 213-9381 | 4073 |
| 22 Mar. (82) | 6 Fri. | 11 0 0 | 18 Mar. (78) | 2 Mon. | 9897-4185 | 948-9092 | 265-2477 | 4074 |
| 22 Mar. (81) | 0 Sat. | 17 12 30 | 8 Mar. (67) | 0 Sat. | 111-7337 | 832-4955 | 237-1616 | 4075 |
| 22 Mar. (81) | 1 Sun. | 23 25 0 | 25 Feb. (56) | 4 Wed. | 9987-4171 | 679-7304 | 206-3378 | 4076 |
| 23 Mar. (82) | 3 Tues. | 5 37 30 | 16 Mar. (75) | 3 Tues. | 22-0566 | 615-7139 | 257-9475 | 4077 |
| 22 Mar. (82) | 4 Wed. | 11 50 0 | 4 Mar. (64) | 0 Sat. | 9897-7400 | 462-9486 | 226-8237 | 4078 |
| 22 Mar. (81) | 5 Thur. | 18 2 30 | 21 Feb. (52) | 4 Wed. | 9773-4234 | 310-1835 | 195-9998 | 4079 |
| 23 Mar. (82) | 0 Sat. | 0 15 0 | 12 Mar. (71) | 3 Tues. | 9808-0631 | 246-1679 | 247-3096 | 4080 |
| 23 Mar. (82) | 1 Sun. | 6 27 30 | 2 Mar. (61) | 1 Sun. | 22-3783 | 129-6934 | 219-2234 | 4081 |
| 22 Mar. (82) | 2 Mon. | 12 40 0 | 20 Mar. (80) | 0 Sat. | 57-0179 | 65-6869 | 270-5332 | 4082 |
| 22 Mar. (81) | 3 Tues. | 18 52 30 | 9 Mar. (68) | 4 Wed. | 9932-7013 | 912-9117 | 239-7093 | 4083 |
| 23 Mar. (82) | 5 Thur. | 1 5 0 | 27 Feb. (58) | 2 Mon. | 147-0166 | 796-4381 | 211-6233 | 4084 |
| 23 Mar. (82) | 6 Fri. | 7 17 30 | 18 Mar. (77) | 1 Sun. | 181-6562 | 732-4216 | 262-9330 | 4085 |
| 22 Mar. (82) | 0 Sat. | 13 30 0 | 6 Mar. (66) | 5 Thur. | 57-3396 | 579-6565 | 232-1091 | 4086 |
| 22 Mar. (81) | 1 Sun. | 19 42 30 | 23 Feb. (54) | 2 Mon. | 9933-0229 | 426-8913 | 201-2852 | 4087 |
| 23 Mar. (82) | 3 Tues. | 1 55 0 | 14 Mar. (73) | 1 Sun. | 9967-6626 | 362-8648 | 252-5949 | 4088 |
| 23 Mar. (82) | 4 Wed. | 8 7 30 | 3 Mar. (62) | 5 Thur. | 9843-3460 | 210-1096 | 221-7711 | 4089 |
| 22 Mar. (82) | 5 Thur. | 14 20 0 | 21 Mar. (81) | 4 Wed. | 9877-9656 | 146-0931 | 273-0808 | 4090 |
| 22 Mar. (81) | 6 Fri. | 20 32 30 | 11 Mar. (70) | 2 Mon. | 92-3008 | 29-6195 | 244-9948 | 4091 |
| 23 Mar. (82) | 1 Sun. | 2 45 0 | 28 Feb. (59) | 6 Fri. | 9967-9842 | 876-8543 | 214-1709 | 4092 |
| 23 Mar. (82) | 2 Mon. | 8 57 30 | 19 Mar. (78) | 5 Thur. | 3-0239 | 812-8379 | 265-4806 | 4093 |
| 22 Mar. (82) | 3 Tues. | 15 10 0 | 8 Mar. (68) | 3 Tues. | 216-9391 | 696-3643 | 237-5945 | 4094 |
| 22 Mar. (81) | 4 Wed. | 21 22 30 | 25 Feb. (56) | 0 Sat. | 92-6225 | 543-5991 | 206-5707 | 4095 |
| 23 Mar. (82) | 6 Fri. | 3 35 0 | 16 Mar. (76) | 6 Fri. | 127-2621 | 479-5826 | 357-8804 | 4096 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>hanya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4097 | 918 | 1053 | 402 | 170-71 | 995-96 | 29 Manmatha . | 31 Hēmalamba . | ... |
| 4098 | 919 | 1054 | 403 | 171-72 | *996-97 | 30 Durmukha . | 32 Vilamba . | 1 Chaitra . |
| 4099 | 920 | 1055 | 404 | 172-73 | 997-98 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4100 | 921 | 1056 | 405 | 173-74 | 998-99 | 32 Vilamba . | 34 Śārvarin . | 5 Śrāvapa . |
| 4101 | 922 | 1057 | 406 | 174-75 | 999-1000 | 33 Vikārin . | 35 Plava . | ... |
| 4102 | 923 | 1058 | 407 | 175-76 | *1000-01 | 34 Śārvarin . | 36 Subhakṛit . | ... |
| 4103 | 924 | 1059 | 408 | 176-77 | 1001-02 | 35 Plava . | 37 Śōbhana . | 4 Āshādha . |
| 4104 | 925 | 1060 | 409 | 177-78 | 1002-03 | 36 Subhakṛit . | 38 Krōdhin . | ... |
| 4105 | 926 | 1061 | 410 | 178-79 | 1003-04 | 37 Śōbhana . | 39 Viśvāvasu . | ... |
| 4106 | 927 | 1062 | 411 | 179-80 | *1004-05 | 38 Krōdhin . | 40 Parābhava . | 2 Vaiśākha . |
| 4107 | 928 | 1063 | 412 | 180-81 | 1005-06 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4108 | 929 | 1064 | 413 | 181-82 | 1006-07 | 40 Parābhava . | 42 Kilaka . | 6 Bhādrapada . |
| 4109 | 930 | 1065 | 414 | 182-83 | 1007-08 | 41 Plavaṅga . | 43 Saumya . | ... |
| 4110 | 931 | 1066 | 415 | 183-84 | *1008-09 | 42 Kilaka . | 44 Sādhārāpa . | ... |
| 4111 | 932 | 1067 | 416 | 184-85 | 1009-10 | 43 Saumya . | 45 Virōdhakṛit . | 5 Śrāvapa . |
| 4112 | 933 | 1068 | 417 | 185-86 | 1010-11 | 44 Sādhārāpa . | 46 Paridhāvin . | ... |
| 4113 | 934 | 1069 | 418 | 186-87 | 1011-12 | 45 Virōdhakṛit . | 47 Pramādin . | ... |
| 4114 | 935 | 1070 | 419 | 187-88 | *1012-13 | 46 Paridhāvin . | 48 Ānanda . | 3 Jyēṣṭha . |
| 4115 | 936 | 1071 | 420 | 188-89 | 1013-14 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4116 | 937 | 1072 | 421 | 189-90 | 1014-15 | 48 Ānanda . | 50 Anala . | ... |
| 4117 | 938 | 1073 | 422 | 190-91 | 1015-16 | 49 Rākshasa . | 51 Pāgala . | 1 Chaitra . |
| 4118 | 939 | 1074 | 423 | 191-92 | *1016-17 | 50 Anala . | 52 Kālayukta . | ... |
| 4119 | 940 | 1075 | 424 | 192-93 | 1017-18 | 51 Pāgala . | 53 Siddhārthin . | 5 Śrāvapa . |
| 4120 | 941 | 1076 | 425 | 193-94 | 1018-19 | 52 Kālayukta . | 54 Raudra . | ... |
| 4121 | 942 | 1077 | 426 | 194-95 | 1019-20 | 53 Siddhārthin . | 55 Dumatī . | ... |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 23 Mar. (82) | 0 Sat. . | 9 47 30 | 5 Mar. (64) | 3 Tues. | 2-9455 | 326-8174 | 227-0568 | 4097 |
| 22 Mar. (82) | 1 Sun. . | 16 0 0 | 22 Feb. (53) | 0 Sat. . | 9878-6289 | 174-0522 | 196-2327 | 4098 |
| 22 Mar. (81) | 2 Mon. . | 22 12 30 | 12 Mar. (71) | 6 Fri. . | 9913-2685 | 110-0357 | 247-5424 | 4099 |
| 23 Mar. (82) | 4 Wed. | 4 25 0 | 2 Mar. (61) | 4 Wed. | 127-5838 | 993-5622 | 219-4503 | 4100 |
| 23 Mar. (82) | 5 Thur. | 10 37 30 | 21 Mar. (80) | 3 Tues. | 162-2234 | 929-5456 | 270-7661 | 4101 |
| 22 Mar. (82) | 6 Fri. . | 16 50 0 | 9 Mar. (69) | 0 Sat. . | 37-9068 | 776-7804 | 239-9422 | 4102 |
| 22 Mar. (81) | 0 Sat. . | 23 -2 30 | 27 Feb. (58) | 5 Thur. | 252-2221 | 660-3068 | 211-8562 | 4103 |
| 23 Mar. (82) | 2 Mon. . | 5 15 0 | 17 Mar. (76) | 3 Tues. | 9948-2298 | 559-9987 | 260-4280 | 4104 |
| 23 Mar. (82) | 3 Tues. | 11 27 30 | 6 Mar. (65) | 0 Sat. . | 9823-9122 | 407-2335 | 229-6042 | 4105 |
| 22 Mar. (82) | 4 Wed. | 17 40 0 | 24 Feb. (55) | 5 Thur. | 38-2274 | 290-7599 | 201-5181 | 4106 |
| 22 Mar. (81) | 5 Thur. | 23 52 30 | 13 Mar. (72) | 3 Tues. | 9734-2362 | 190-4518 | 250-0901 | 4107 |
| 23 Mar. (82) | 0 Sat. . | 6 5 0 | 3 Mar. (62) | 1 Sun. . | 9948-5515 | 73-9783 | 222-0040 | 4108 |
| 23 Mar. (82) | 1 Sun. . | 12 17 30 | 22 Mar. (81) | 0 Sat. . | 9983-1911 | 9-9618 | 274-3137 | 4109 |
| 22 Mar. (82) | 2 Mon. . | 18 30 0 | 11 Mar. (71) | 5 Thur. | 197-5063 | 893-4882 | 245-2277 | 4110 |
| 23 Mar. (82) | 4 Wed. | 0 42 30 | 28 Feb. (59) | 2 Mon. . | 73-1897 | 740-7230 | 214-4037 | 4111 |
| 23 Mar. (82) | 5 Thur. | 6 55 0 | 19 Mar. (78) | 1 Sun. . | 107-8294 | 676-7066 | 265-7135 | 4112 |
| 23 Mar. (82) | 6 Fri. . | 13 7 30 | 8 Mar. (67) | 5 Thur. | 9983-5127 | 523-9413 | 234-8896 | 4113 |
| 22 Mar. (82) | 0 Sat. . | 19 20 0 | 25 Feb. (56) | 2 Mon. . | 9859-1961 | 371-1761 | 204-0658 | 4114 |
| 23 Mar. (82) | 2 Mon. . | 1 32 30 | 15 Mar. (74) | 1 Sun. . | 9893-8357 | 307-4513 | 258-1133 | 4115 |
| 23 Mar. (82) | 3 Tues. | 7 45 0 | 4 Mar. (63) | 5 Thur. | 9769-5190 | 154-3945 | 224-5517 | 4116 |
| 23 Mar. (82) | 4 Wed. | 13 57 30 | 22 Feb. (53) | 3 Tues. | 9983-8344 | 37-9209 | 196-5655 | 4117 |
| 22 Mar. (82) | 5 Thur. | 20 10 0 | 12 Mar. (72) | 2 Mon. . | 18-4740 | 973-0044 | 247-7753 | 4118 |
| 23 Mar. (82) | 0 Sat. . | 2 22 30 | 2 Mar. (61) | 0 Sat. . | 232-7892 | 857-4309 | 219-6802 | 4119 |
| 23 Mar. (82) | 1 Sun. . | 8 35 0 | 21 Mar. (80) | 6 Fri. . | 267-4288 | 793-4143 | 270-9990 | 4120 |
| 23 Mar. (82) | 2 Mon. . | 14 47 30 | 10 Mar. (69) | 3 Tues. | 143-1122 | 640-6491 | 240-1751 | 4121 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māshādī solar year in Bengal. | Kellam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4122 | 943 | 1078 | 427 | 195-96 | *1020-21 | 54 Raudra | 56 Dundubhi | 4 Āshāḍha |
| 4123 | 944 | 1079 | 428 | 196-97 | 1021-22 | 55 Durmatī | 57 Rudhirōdgārin | ... |
| 4124 | 945 | 1080 | 429 | 197-98 | 1022-23 | 56 Dundubhi | 58 Raktāksha | ... |
| 4125 | 946 | 1081 | 430 | 198-99 | 1023-24 | 57 Rudhirōdgārin | 59 Krōdhana | 2 Vaiśākha |
| 4126 | 947 | 1082 | 431 | 199-200 | *1024-25 | 58 Raktāksha | 60 Kshaya | ... |
| 4127 | 948 | 1083 | 432 | 200-01 | 1025-26 | 59 Krōdhana | 1 Prabhava | 6 Bhādrapada |
| 4128 | 949 | 1084 | 433 | 201-02 | 1026-27 | 60 Kshaya | 2 Vibhava | ... |
| 4129 | 950 | 1085 | 434 | 202-03 | 1027-28 | 1 Prabhava | 3 Śukla | ... |
| 4130 | 951 | 1086 | 435 | 203-04 | *1028-29 | 2 Vibhava | 4 Pramōda | 5 Śrāvapa |
| 4131 | 952 | 1087 | 436 | 204-05 | 1029-30 | 3 Śukla | 5 Prajāpati | ... |
| 4132 | 953 | 1088 | 437 | 205-06 | 1030-31 | 4 Pramōda | 6 Aṅgiras | ... |
| 4133 | 954 | 1089 | 438 | 206-07 | 1031-32 | 5 Prajāpati | 7 Śrīmukha | 3 Jyēṣṭha |
| 4134 | 955 | 1090 | 439 | 207-08 | *1032-33 | 6 Aṅgiras | 8 Bhāva | ... |
| 4135 | 956 | 1091 | 440 | 208-09 | 1033-34 | 7 Śrīmukha | 9 Yuvan | ... |
| 4136 | 957 | 1092 | 441 | 209-10 | 1034-35 | 8 Bhāva | 10 Dhātṛi | 1 Chaitra |
| 4137 | 958 | 1093 | 442 | 210-11 | 1035-36 | 9 Yuvan | 11 Īvara | ... |
| 4138 | 959 | 1094 | 443 | 211-12 | *1036-37 | 10 Dhātṛi | 12 Bahudhānya | 5 Śrāvapa |
| 4139 | 960 | 1095 | 444 | 212-13 | 1037-38 | 11 Īvara | 13 Pramāthin | ... |
| 4140 | 961 | 1096 | 445 | 213-14 | 1038-39 | 12 Bahudhānya | 14 Vikrama | ... |
| 4141 | 962 | 1097 | 446 | 214-15 | 1039-40 | 13 Pramāthin | 15 Vṛisha | 4 Āshāḍha |
| 4142 | 963 | 1098 | 447 | 215-16 | *1040-41 | 14 Vikrama | 16 Chitrabhānu | ... |
| 4143 | 964 | 1099 | 448 | 216-17 | 1041-42 | 15 Vṛisha | 17 Subhānu | ... |
| 4144 | 965 | 1100 | 449 | 217-18 | 1042-43 | 16 Chitrabhānu | 18 Tāraṇa | 2 Vaiśākha |
| 4145 | 966 | 1101 | 450 | 218-19 | 1043-44 | 17 Subhānu | 19 Pārthiva | ... |
| 4146 | 967 | 1102 | 451 | 219-20 | *1044-45 | 18 Tāraṇa | 20 Vyaya | 6 Bhādrapada |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (82) | 3 Tues. | 21 0 0 | 27 Feb. (58) | 0 Sat. | 18-6956 | 487-8840 | 209-3513 | 4122 |
| 23 Mar. (82) | 5 Thur. | 3 12 30 | 17 Mar. (76) | 6 Fri. | 53-4352 | 423-8675 | 260-6609 | 4123 |
| 23 Mar. (82) | 6 Fri. | 9 25 0 | 6 Mar. (65) | 3 Tues. | 9929-1186 | 274-1022 | 229-8371 | 4124 |
| 23 Mar. (82) | 0 Sat. | 15 37 30 | 23 Feb. (54) | 0 Sat. | 9804-8020 | 118-3371 | 199-0132 | 4125 |
| 22 Mar. (82) | 1 Sun. | 21 50 0 | 13 Mar. (73) | 6 Fri. | 9839-4416 | 54-3206 | 250-3230 | 4126 |
| 23 Mar. (82) | 3 Tues. | 4 2 30 | 3 Mar. (82) | 4 Wed. | 53-7509 | 937-8479 | 222-2369 | 4127 |
| 23 Mar. (82) | 4 Wed. | 10 15 0 | 22 Mar. (81) | 3 Tues. | 88-3965 | 875-8305 | 273-5466 | 4128 |
| 23 Mar. (82) | 5 Thur. | 16 27 30 | 12 Mar. (71) | 1 Sun. | 302-7117 | 787-3570 | 245-4606 | 4129 |
| 22 Mar. (82) | 6 Fri. | 22 40 0 | 29 Feb. (60) | 5 Thur. | 178-3951 | 604-5917 | 214-6366 | 4130 |
| 23 Mar. (82) | 1 Sun. | 4 52 30 | 18 Mar. (77) | 3 Tues. | 9874-4029 | 504-2837 | 263-2086 | 4131 |
| 23 Mar. (82) | 2 Mon. | 11 5 0 | 7 Mar. (66) | 0 Sat. | 9750-0862 | 351-5185 | 232-3847 | 4132 |
| 23 Mar. (82) | 3 Tues. | 17 17 30 | 25 Feb. (56) | 5 Thur. | 9964-4015 | 235-0448 | 204-2987 | 4133 |
| 22 Mar. (82) | 4 Wed. | 23 30 0 | 15 Mar. (75) | 4 Wed. | 9999-0411 | 171-0284 | 255-6084 | 4134 |
| 23 Mar. (82) | 6 Fri. | 5 42 30 | 4 Mar. (83) | 1 Sun. | 9874-7245 | 18-2632 | 224-7846 | 4135 |
| 23 Mar. (82) | 0 Sat. | 11 55 0 | 22 Feb. (53) | 6 Fri. | 89-0398 | 901-7897 | 196-6984 | 4136 |
| 23 Mar. (82) | 1 Sun. | 18 7 30 | 13 Mar. (72) | 5 Thur. | 123-6794 | 837-7731 | 248-0082 | 4137 |
| 23 Mar. (83) | 3 Tues. | 0 20 0 | 1 Mar. (61) | 2 Mon. | 9999-3628 | 085-0080 | 217-1843 | 4138 |
| 23 Mar. (82) | 4 Wed. | 6 32 30 | 20 Mar. (79) | 1 Sun. | 34-0024 | 620-9916 | 268-4941 | 4139 |
| 23 Mar. (82) | 5 Thur. | 12 45 0 | 9 Mar. (68) | 5 Thur. | 9909-6856 | 468-2262 | 237-6702 | 4140 |
| 23 Mar. (82) | 6 Fri. | 18 57 30 | 26 Feb. (67) | 2 Mon. | 9785-3692 | 315-4611 | 206-8464 | 4141 |
| 23 Mar. (83) | 1 Sun. | 1 10 0 | 16 Mar. (76) | 1 Sun. | 9820-0088 | 251-4446 | 258-1561 | 4142 |
| 23 Mar. (82) | 2 Mon. | 7 22 30 | 6 Mar. (65) | 6 Fri. | 34-3241 | 134-9710 | 230-0700 | 4143 |
| 23 Mar. (82) | 3 Tues. | 13 35 0 | 23 Feb. (54) | 3 Tues. | 9910-0075 | 982-2068 | 199-2461 | 4144 |
| 23 Mar. (82) | 4 Wed. | 19 47 30 | 1 Mar. (73) | 2 Mon. | 9944-6471 | 918-1893 | 250-5559 | 4145 |
| 23 Mar. (83) | 6 Fri. | 2 0 0 | 3 Mar. (63) | 0 Sat. | 158-9623 | 801-7158 | 222-4698 | 4146 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4147 | 968 | 1103 | 452 | 220-21 | 1045-46 | 19 Pārthiva . | 21 Sarvajit . | ... |
| 4148 | 969 | 1104 | 453 | 221-22 | 1046-47 | 20 Vyaya . | 22 Sarvadhārin . | ... |
| 4149 | 970 | 1105 | 454 | 222-23 | 1047-48 | 21 Sarvajit . | 23 Virōdhin . | 5 Śrāvaga . |
| 4150 | 971 | 1106 | 455 | 223-24 | *1048-49 | 22 Sarvadhārin . | 24 Vikṛita . | ... |
| 4151 | 972 | 1107 | 456 | 224-25 | 1049-50 | 23 Virōdhin . | 25 Khara . | ... |
| 4152 | 973 | 1108 | 457 | 225-26 | 1050-51 | 24 Vikṛita . | 26 Nandana . | 3 Jyēshṭha . |
| 4153 | 974 | 1109 | 458 | 226-27 | 1051-52 | 25 Khara . | 27 Vijaya . | ... |
| 4154 | 975 | 1110 | 459 | 227-28 | *1052-53 | 26 Nandana . | 28 Jaya . | 7 Āvina } 10 Pauṣa (<i>ksh</i>) } |
| 4155 | 976 | 1111 | 460 | 228-29 | 1053-54 | 27 Vijaya . | 29 Maumatha . | 1 Chaitra . |
| 4156 | 977 | 1112 | 461 | 229-30 | 1054-55 | 28 Jaya . | 30 Durmukha . | ... |
| 4157 | 978 | 1113 | 462 | 230-31 | 1055-56 | 29 Maumatha . | 31 Hēmalamba . | 5 Śrāvaga . |
| 4158 | 979 | 1114 | 463 | 231-32 | *1056-57 | 30 Durmukha . | 32 Vilamba . | ... |
| 4159 | 980 | 1115 | 464 | 232-33 | 1057-58 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4160 | 981 | 1116 | 465 | 233-34 | 1058-59 | 32 Vilamba . | 34 Śārvarin . | 4 Āshādha . |
| 4161 | 982 | 1117 | 466 | 234-35 | 1059-60 | 33 Vikārin . | 35 Plava . | ... |
| 4162 | 983 | 1118 | 467 | 235-36 | *1060-61 | 34 Śārvarin . | 36 Śobhakṛit . | ... |
| 4163 | 984 | 1119 | 468 | 236-37 | 1061-62 | 35 Plava . | 37 Śobhana . | 2 Vaiśākha . |
| 4164 | 985 | 1120 | 469 | 237-38 | 1062-63 | 36 Śobhakṛit . | 38 Krōdhin . | ... |
| 4165 | 986 | 1121 | 470 | 238-39 | 1063-64 | 37 Śobhana . | 39 Viśvāvasu . | 6 Bhādrapada |
| 4166 | 987 | 1122 | 471 | 239-40 | *1064-65 | 38 Krōdhin . | 40 Parābhava . | ... |
| 4167 | 988 | 1123 | 472 | 240-41 | 1065-66 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4168 | 989 | 1124 | 473 | 241-42 | 1066-67 | 40 Parābhava . | 42 Kṛlaka . | 4 Āshādha . |
| 4169 | 990 | 1125 | 474 | 242-43 | 1067-68 | 41 Plavaṅga . | 43 Saumya . | ... |
| 4170 | 991 | 1126 | 475 | 243-44 | *1068-69 | 42 Kṛlaka . | 44 Sādhārāga . | ... |
| 4171 | 992 | 1127 | 476 | 244-45 | 1069-70 | 43 Saumya . | 45 Virōdhakṛit . | 3 Jyēshṭha . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | KāH. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 23 Mar. (82) | 0 Sat. . | 8 12 30 | 22 Mar. (81) | 6 Fri. . | 193-6019 | 737-6992 | 273-7795 | 4147 | |
| 23 Mar. (82) | 1 Sun. . | 14 25 0 | 11 Mar. (70) | 3 Tues. | 69-2853 | 584-9341 | 242-9557 | 4148 | |
| 23 Mar. (82) | 2 Mon. . | 20 37 30 | 28 Feb. (59) | 0 Sat. . | 9944-9688 | 432-1689 | 212-1318 | 4149 | |
| 23 Mar. (83) | 4 Wed. | 2 50 0 | 18 Mar. (78) | 6 Fri. . | 9979-6083 | 368-1524 | 263-4415 | 4150 | |
| 23 Mar. (82) | 5 Thur. | 9 2 30 | 7 Mar. (65) | 3 Tues. | 9855-2917 | 215-3872 | 232-6177 | 4151 | |
| 23 Mar. (82) | 6 Fri. . | 15 15 0 | 25 Feb. (56) | 1 Sun. . | 69-6069 | 98-9136 | 204-5316 | 4152 | |
| 23 Mar. (82) | 0 Sat. . | 21 27 30 | 16 Mar. (75) | 0 Sat. . | 104-2465 | 34-8972 | 255-8413 | 4153 | |
| 23 Mar. (83) | 2 Mon. . | 3 40 0 | 4 Mar. (64) | 4 Wed. | 9979-9299 | 882-1319 | 225-6175 | 4154 | |
| 23 Mar. (82) | 3 Tues. | 9 52 30 | 22 Feb. (53) | 2 Mon. . | 194-2452 | 765-6584 | 196-9313 | 4155 | |
| 23 Mar. (82) | 4 Wed. | 16 5 0 | 13 Mar. (72) | 1 Sun. . | 228-8848 | 791-6419 | 248-2411 | 4156 | |
| 23 Mar. (82) | 5 Thur. | 22 17 30 | 2 Mar. (61) | 5 Thur. | 104-5682 | 548-8767 | 217-4172 | 4157 | |
| 23 Mar. (83) | 0 Sat. . | 4 30 0 | 20 Mar. (80) | 4 Wed. | 139-2678 | 484-8602 | 268-7270 | 4158 | |
| 23 Mar. (82) | 1 Sun. . | 10 42 30 | 9 Mar. (68) | 1 Sun. . | 14-8912 | 332-0950 | 237-9031 | 4159 | |
| 23 Mar. (82) | 2 Mon. . | 16 55 0 | 26 Feb. (57) | 5 Thur. | 9890-5746 | 179-3299 | 267-0793 | 4160 | |
| 23 Mar. (82) | 3 Tues. | 23 7 30 | 17 Mar. (76) | 4 Wed. | 9925-2142 | 115-3133 | 258-3890 | 4161 | |
| 23 Mar. (83) | 5 Thur. | 5 20 0 | 6 Mar. (66) | 2 Mon. . | 139-5295 | 998-8397 | 230-3029 | 4162 | |
| 23 Mar. (82) | 6 Fri. . | 11 32 30 | 23 Feb. (54) | 6 Fri. . | 15-2129 | 846-0746 | 199-4790 | 4163 | |
| 23 Mar. (82) | 0 Sat. . | 17 45 0 | 14 Mar. (73) | 5 Thur. | 49-8525 | 782-0580 | 250-7888 | 4164 | |
| 23 Mar. (82) | 1 Sun. . | 23 57 30 | 4 Mar. (63) | 3 Tues. | 264-1677 | 665-5845 | 222-7027 | 4165 | |
| 23 Mar. (83) | 3 Tues. | 6 10 0 | 21 Mar. (81) | 1 Sun. . | 9960-1755 | 565-2764 | 271-2747 | 4166 | |
| 23 Mar. (82) | 4 Wed. | 12 22 30 | 10 Mar. (69) | 5 Thur. | 9835-8589 | 412-5112 | 240-5508 | 4167 | |
| 23 Mar. (82) | 5 Thur. | 18 35 0 | 28 Feb. (59) | 3 Tues. | 56-1742 | 296-0396 | 212-3647 | 4168 | |
| 24 Mar. (83) | 0 Sat. . | 0 47 30 | 18 Mar. (77) | 1 Sun. . | 9746-1819 | 195-7275 | 260-9366 | 4169 | |
| 23 Mar. (83) | 1 Sun. . | 7 0 0 | 7 Mar. (67) | 6 Fri. . | 9960-4972 | 79-2560 | 232-8506 | 4170 | |
| 23 Mar. (82) | 2 Mon. . | 13 12 30 | 25 Feb. (56) | 4 Wed. | 174-8124 | 962-7823 | 204-7645 | 4171 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4172 | 993 | 1128 | 477 | 245-46 | 1070-71 | 44 Sādharma | 46 Paridhāvin | ... |
| 4173 | 994 | 1129 | 478 | 246-47 | 1071-72 | 45 Virōdhakrit | 47 Pramādin | 7 Āvina |
| 4174 | 995 | 1130 | 479 | 247-48 | *1072-73 | 46 Paridhāvin | 48 Ānanda | ... |
| 4175 | 996 | 1131 | 480 | 248-49 | 1073-74 | 47 Pramādin | 49 Rākshasa | ... |
| 4176 | 997 | 1132 | 481 | 249-50 | 1074-75 | 48 Ānanda | 50 Anala | 5 Śrāvapa |
| 4177 | 998 | 1133 | 482 | 250-51 | 1075-76 | 49 Rākshasa | 51 Piṅgala† | ... |
| 4178 | 999 | 1134 | 483 | 251-52 | *1076-77 | 50 Anala | 53 Siddhārthina | ... |
| 4179 | 1000 | 1135 | 484 | 252-53 | 1077-78 | 51 Piṅgala | 54 Raudra | 3 Jyēṣṭha |
| 4180 | 1001 | 1136 | 485 | 253-54 | 1078-79 | 52 Kālayukta | 55 Darmati | ... |
| 4181 | 1002 | 1137 | 486 | 254-55 | 1079-80 | 53 Siddhārthina | 56 Dandubhi | ... |
| 4182 | 1003 | 1138 | 487 | 255-56 | *1080-81 | 54 Raudra | 57 Rudhirōdgārīn | 2 Vaiśākha |
| 4183 | 1004 | 1139 | 488 | 256-57 | 1081-82 | 55 Darmati | 58 Raktāksha | ... |
| 4184 | 1005 | 1140 | 489 | 257-58 | 1082-83 | 56 Dandubhi | 59 Krōdhana | 6 Bhādrapada |
| 4185 | 1006 | 1141 | 490 | 258-59 | 1083-84 | 57 Rudhirōdgārīn | 60 Kshaya | ... |
| 4186 | 1007 | 1142 | 491 | 259-60 | *1084-85 | 58 Raktāksha | 1 Prabhava | ... |
| 4187 | 1008 | 1143 | 492 | 260-61 | 1085-86 | 59 Krōdhana | 2 Vibhava | 4 Āshāḍha |
| 4188 | 1009 | 1144 | 493 | 261-62 | 1086-87 | 60 Kshaya | 3 Sukla | ... |
| 4189 | 1010 | 1145 | 494 | 262-63 | 1087-88 | 1 Prabhava | 4 Pramōda | ... |
| 4190 | 1011 | 1146 | 495 | 263-64 | *1088-89 | 2 Vibhava | 5 Prajāpati | 3 Jyēṣṭha |
| 4191 | 1012 | 1147 | 496 | 264-65 | 1089-90 | 3 Sukla | 6 Āngīras | ... |
| 4192 | 1013 | 1148 | 497 | 265-66 | 1090-91 | 4 Pramōda | 7 Śrīmukha | 7 Āvina |
| 4193 | 1014 | 1149 | 498 | 266-67 | 1091-92 | 5 Prajāpati | 8 Bhāva | ... |
| 4194 | 1015 | 1150 | 499 | 267-68 | *1092-93 | 6 Āngīras | 9 Yuvan | ... |
| 4195 | 1016 | 1151 | 500 | 268-69 | 1093-94 | 7 Śrīmukha | 10 Dhātri | 5 Śrāvapa |
| 4196 | 1017 | 1152 | 501 | 269-70 | 1094-95 | 8 Bhāva | 11 Jāvara | ... |

† 52 Kālayukta was suppressed in the north.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 23 Mar. (82) | 3 Tues. | 19 25 0 | 16 Mar. (75) | 3 Tues. | 209-4520 | 898-7659 | 256-0742 | 4172 |
| 24 Mar. (83) | 5 Thur. | 1 37 30 | 5 Mar. (64) | 0 Sat. . | 85-1354 | 746-0007 | 225-2504 | 4173 |
| 23 Mar. (83) | 6 Fri. . | 7 50 0 | 23 Mar. (83) | 6 Fri. . | 119-7751 | 681-9843 | 276-5600 | 4174 |
| 23 Mar. (82) | 0 Sat. . | 14 2 30 | 12 Mar. (71) | 3 Tues. | 9995-4584 | 529-2190 | 245-7362 | 4175 |
| 23 Mar. (82) | 1 Sun. . | 20 15 0 | 1 Mar. (60) | 0 Sat. . | 9871-1418 | 376-4538 | 214-9123 | 4176 |
| 24 Mar. (83) | 3 Tues. | 2 27 30 | 20 Mar. (79) | 6 Fri. . | 9905-7814 | 312-4374 | 266-2221 | 4177 |
| 23 Mar. (83) | 4 Wed. | 8 40 0 | 8 Mar. (68) | 3 Tues. | 9781-4647 | 159-6721 | 235-3982 | 4178 |
| 23 Mar. (82) | 5 Thur. | 14 52 30 | 26 Feb. (57) | 1 Sun. . | 9995-7800 | 43-1986 | 207-3122 | 4179 |
| 23 Mar. (82) | 6 Fri. . | 21 5 0 | 17 Mar. (76) | 0 Sat. . | 30-4197 | 979-1821 | 258-6219 | 4180 |
| 24 Mar. (83) | 1 Sun. . | 3 17 30 | 7 Mar. (66) | 5 Thur. | 244-7349 | 862-7084 | 230-5358 | 4181 |
| 23 Mar. (83) | 2 Mon. . | 9 30 0 | 24 Feb. (55) | 2 Mon. . | 120-4183 | 709-9433 | 199-7119 | 4182 |
| 23 Mar. (82) | 3 Tues. | 15 42 30 | 14 Mar. (73) | 1 Sun. . | 155-0579 | 645-9268 | 251-0217 | 4183 |
| 23 Mar. (82) | 4 Wed. | 21 55 0 | 3 Mar. (62) | 5 Thur. | 30-7413 | 493-1616 | 229-1978 | 4184 |
| 24 Mar. (83) | 6 Fri. . | 4 7 30 | 22 Mar. (81) | 4 Wed. | 65-3869 | 429-1451 | 271-5066 | 4185 |
| 23 Mar. (83) | 0 Sat. . | 10 20 0 | 10 Mar. (70) | 1 Sun. . | 9941-0643 | 276-3799 | 240-6836 | 4186 |
| 23 Mar. (82) | 1 Sun. . | 16 32 30 | 27 Feb. (58) | 5 Thur. | 9816-7477 | 123-6148 | 209-8598 | 4187 |
| 23 Mar. (82) | 2 Mon. . | 22 45 0 | 18 Mar. (77) | 4 Wed. | 9851-3873 | 59-5982 | 261-1695 | 4188 |
| 24 Mar. (83) | 4 Wed. | 4 57 30 | 8 Mar. (67) | 2 Mon. . | 65-7026 | 943-1247 | 233-0835 | 4189 |
| 23 Mar. (83) | 5 Thur. | 11 10 0 | 26 Feb. (57) | 0 Sat. . | 280-6178 | 826-6511 | 204-9074 | 4190 |
| 23 Mar. (82) | 6 Fri. . | 17 22 30 | 16 Mar. (75) | 6 Fri. . | 314-6574 | 762-6346 | 256-3071 | 4191 |
| 23 Mar. (82) | 0 Sat. . | 23 35 0 | 5 Mar. (64) | 3 Tues. | 190-3408 | 608-8694 | 225-4833 | 4192 |
| 24 Mar. (83) | 2 Mon. . | 5 47 30 | 23 Mar. (82) | 1 Sun. . | 9886-3486 | 509-5613 | 274-0551 | 4193 |
| 23 Mar. (83) | 3 Tues. | 12 0 0 | 11 Mar. (71) | 5 Thur. | 9762-0319 | 356-7962 | 243-2313 | 4194 |
| 23 Mar. (82) | 4 Wed. | 18 12 30 | 1 Mar. (60) | 3 Tues. | 0976-3472 | 240-3225 | 215-1452 | 4195 |
| 24 Mar. (83) | 6 Fri. . | 0 25 0 | 20 Mar. (79) | 2 Mon. . | 10-9868 | 176-3061 | 266-4550 | 4196 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4197 | 1018 | 1153 | 502 | 270-71 | 1095-96 | 9 Yuvan . . | 12 Bahudhānya . | ... |
| 4198 | 1019 | 1154 | 503 | 271-72 | *1096-97 | 10 Dhātṛi . . | 13 Pramāthin . | 3 Jyēshṭha . |
| 4199 | 1020 | 1155 | 504 | 272-73 | 1097-98 | 11 Īvara . . | 14 Vikrama . . | ... |
| 4200 | 1021 | 1156 | 505 | 273-74 | 1098-99 | 12 Bahudhānya . | 15 Vṛisha . . | ... |
| 4201 | 1022 | 1157 | 506 | 274-75 | 1099-1100 | 13 Pramāthin . | 16 Chitrabhānu . | 2 Vaiśākha . |
| 4202 | 1023 | 1158 | 507 | 275-76 | *1100-01 | 14 Vikrama . . | 17 Subhānu . . | ... |
| 4203 | 1024 | 1159 | 508 | 276-77 | 1101-02 | 15 Vṛisha . . | 18 Tāraṇa . . | 6 Bhādrapada |
| 4204 | 1025 | 1160 | 509 | 277-78 | 1102-03 | 16 Chitrabhānu . | 19 Pārthiva . . | ... |
| 4205 | 1026 | 1161 | 510 | 278-79 | 1103-04 | 17 Subhānu . . | 20 Vyaya . . | ... |
| 4206 | 1027 | 1162 | 511 | 279-80 | *1104-05 | 18 Tāraṇa . . | 21 Sarvajit . . | 4 Āshādha . |
| 4207 | 1028 | 1163 | 512 | 280-81 | 1105-06 | 19 Pārthiva . . | 22 Sarvadhārin . | ... |
| 4208 | 1029 | 1164 | 513 | 281-82 | 1106-07 | 20 Vyaya . . | 23 Virōdhin . . | ... |
| 4209 | 1030 | 1165 | 514 | 282-83 | 1107-08 | 21 Sarvajit . . | 24 Vikṛita . . | 3 Jyēshṭha . |
| 4210 | 1031 | 1166 | 515 | 283-84 | *1108-09 | 22 Sarvadhārin . | 25 Khara . . | ... |
| 4211 | 1032 | 1167 | 516 | 284-85 | 1109-10 | 23 Virōdhin . . | 26 Nandana . . | 7 Āsvina . |
| 4212 | 1033 | 1168 | 517 | 285-86 | 1110-11 | 24 Vikṛita . . | 27 Vijaya . . | ... |
| 4213 | 1034 | 1169 | 518 | 286-87 | 1111-12 | 25 Khara . . | 28 Jaya . . | ... |
| 4214 | 1035 | 1170 | 519 | 287-88 | *1112-13 | 26 Nandana . . | 29 Manmatha . | 5 Śrāvapa . |
| 4215 | 1036 | 1171 | 520 | 288-89 | 1113-14 | 27 Vijaya . . | 30 Durmukha . | ... |
| 4216 | 1037 | 1172 | 521 | 289-90 | 1114-15 | 28 Jaya . . | 31 Hēmalamba . | ... |
| 4217 | 1038 | 1173 | 522 | 290-91 | 1115-16 | 29 Manmatha . | 32 Vilamba . . | 3 Jyēshṭha . |
| 4218 | 1039 | 1174 | 523 | 291-92 | *1116-17 | 30 Durmukha . | 33 Vikārin . . | ... |
| 4219 | 1040 | 1175 | 524 | 292-93 | 1117-18 | 31 Hēmalamba . | 34 Śāryarin . . | ... |
| 4220 | 1041 | 1176 | 525 | 293-94 | 1118-19 | 32 Vilamba . . | 35 Plava . . | 1 Chaitra . |
| 4221 | 1042 | 1177 | 526 | 294-95 | 1119-20 | 33 Vikārin . . | 36 Subhakṛit . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|------------------------|---------------|--------------------------------------|---|---------------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week- day. | Time of true Mēsha- samkrānti. | Day and month, A.D. | Week- day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 24 Mar. (83) | 0 Sat. . | 6 37 30 | 9 Mar. (68) | 6 Fri. . | 9886-6702 | 23-5409 | 235-6311 | 4197 | |
| 23 Mar. (83) | 1 Sun. . | 12 50 0 | 27 Feb. (58) | 4 Wed. | 100-9855 | 907-0673 | 207-5451 | 4198 | |
| 23 Mar. (82) | 2 Mon. . | 19 2 30 | 17 Mar. (76) | 3 Tues. | 135-6251 | 843-0508 | 258-8547 | 4199 | |
| 24 Mar. (83) | 4 Wed. | 1 15 0 | 6 Mar. (65) | 0 Sat. . | 11-3085 | 690-2856 | 227-9309 | 4200 | |
| 24 Mar. (83) | 5 Thur. | 7 27 30 | 24 Feb. (55) | 5 Thur. | 225-6237 | 573-8121 | 199-9448 | 4201 | |
| 23 Mar. (83) | 6 Fri. . | 13 40 0 | 13 Mar. (73) | 3 Tues. | 9921-6314 | 473-5040 | 248-5168 | 4202 | |
| 23 Mar. (82) | 0 Sat. . | 19 52 30 | 2 Mar. (61) | 0 Sat. . | 9767-3148 | 320-7388 | 217-6929 | 4203 | |
| 24 Mar. (83) | 2 Mon. . | 2 5 0 | 21 Mar. (80) | 6 Fri. . | 9831-0544 | 256-7233 | 269-0026 | 4204 | |
| 24 Mar. (83) | 3 Tues. | 8 17 30 | 11 Mar. (70) | 4 Wed. | 46-2697 | 140-2487 | 240-9165 | 4205 | |
| 23 Mar. (83) | 4 Wed. | 14 30 0 | 28 Feb. (59) | 1 Sun. . | 9921-9531 | 987-4835 | 216-0927 | 4206 | |
| 23 Mar. (82) | 5 Thur | 20 42 30 | 18 Mar. (77) | 0 Sat. . | 9956-5927 | 923-4670 | 261-4024 | 4207 | |
| 24 Mar. (83) | 0 Sat. . | 2 55 0 | 8 Mar. (67) | 5 Thur. | 170-9080 | 806-9935 | 233-3163 | 4208 | |
| 24 Mar. (83) | 1 Sun. . | 9 7 30 | 25 Feb. (56) | 2 Mon. . | 46-5913 | 654-2283 | 202-4925 | 4209 | |
| 23 Mar. (83) | 2 Mon. . | 15 20 0 | 15 Mar. (75) | 1 Sun. . | 81-2310 | 590-2118 | 253-8022 | 4210 | |
| 23 Mar. (82) | 3 Tues. | 21 32 30 | 4 Mar. (63) | 5 Thur. | 9956-9143 | 437-4466 | 222-9783 | 4211 | |
| 24 Mar. (83) | 5 Thur. | 3 45 0 | 23 Mar. (82) | 4 Wed. . | 9991-5540 | 373-4301 | 274-2880 | 4212 | |
| 24 Mar. (83) | 6 Fri. . | 9 57 30 | 12 Mar. (71) | 1 Sun. . | 9867-2374 | 220-6649 | 243-4642 | 4213 | |
| 23 Mar. (83) | 0 Sat. . | 16 10 0 | 1 Mar. (61) | 6 Fri. . | 81-5526 | 104-1913 | 215-3781 | 4214 | |
| 23 Mar. (82) | 1 Sun. . | 22 22 30 | 20 Mar. (79) | 5 Thur. | 116-1922 | 40-1749 | 266-6879 | 4215 | |
| 24 Mar. (83) | 3 Tues. | 4 35 0 | 9 Mar. (68) | 2 Mon. | 9991-8755 | 887-4097 | 235-8740 | 4216 | |
| 24 Mar. (83) | 4 Wed. | 10 47 30 | 27 Feb. (58) | 0 Sat. . | 206-1909 | 770-9361 | 207-7779 | 4217 | |
| 23 Mar. (83) | 5 Thur. | 17 0 0 | 17 Mar. (77) | 6 Fri. . | 240-8305 | 706-9196 | 259-0866 | 4218 | |
| 23 Mar. (82) | 6 Fri. . | 23 12 30 | 6 Mar. (65) | 3 Tues. | 116-5133 | 554-1544 | 228-2638 | 4219 | |
| 24 Mar. (83) | 1 Sun. . | 5 25 0 | 23 Feb. (54) | 0 Sat. . | 9992-1972 | 401-3892 | 197-4392 | 4220 | |
| 24 Mar. (83) | 2 Mon. . | 11 37 30 | 14 Mar. (73) | 6 Fri. . | 26-8368 | 337-3727 | 248-7497 | 4221 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|-----------------------|-------------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4222 | 1043 | 1178 | 527 | 295-96 | *1120-21 | 34 Śarvarin . | 37 Śobhana . | 6 Bhādrapada . |
| 4223 | 1044 | 1179 | 528 | 296-97 | 1121-22 | 35 Plava . | 38 Krōdhin . | ... |
| 4224 | 1045 | 1180 | 529 | 297-98 | 1122-23 | 36 Subhākṛit | 39 Viśvāvasu . | ... |
| 4225 | 1046 | 1181 | 530 | 298-99 | 1123-24 | 37 Śobhana . | 40 Parābhava . | 4 Āshāḍha . |
| 4226 | 1047 | 1182 | 531 | 299-300 | *1124-25 | 38 Krōdhin . | 41 Plavaṅga . | ... |
| 4227 | 1048 | 1183 | 532 | 300-01 | 1125-26 | 39 Viśvāvasu . | 42 Kilaka . | ... |
| 4228 | 1049 | 1184 | 533 | 301-02 | 1126-27 | 40 Parābhava . | 43 Saumya . | 3 Jyēṣṭha . |
| 4229 | 1050 | 1185 | 534 | 302-03 | 1127-28 | 41 Plavaṅga . | 44 Sādhāraṇa . | ... |
| 4230 | 1051 | 1186 | 535 | 303-04 | *1128-29 | 42 Kilaka . | 45 Virōdhakṛit . | 7 Āvina . |
| 4231 | 1052 | 1187 | 536 | 304-05 | 1129-30 | 43 Saumya . | 46 Paridhāvin . | ... |
| 4232 | 1053 | 1188 | 537 | 305-06 | 1130-31 | 44 Sādhāraṇa . | 47 Pramādin . | ... |
| 4233 | 1054 | 1189 | 538 | 306-07 | 1131-32 | 45 Virōdhakṛit . | 48 Ānanda . | 5 Śrāvaṇa . |
| 4234 | 1055 | 1190 | 539 | 307-08 | *1132-33 | 46 Paridhāvin . | 49 Rākshasa . | ... |
| 4235 | 1056 | 1191 | 540 | 308-09 | 1133-34 | 47 Pramādin . | 50 Ānala . | ... |
| 4236 | 1057 | 1192 | 541 | 309-10 | 1134-35 | 48 Ānanda . | 51 Piṅgala . | 3 Jyēṣṭha . |
| 4237 | 1058 | 1193 | 542 | 310-11 | 1135-36 | 49 Rākshasa . | 52 Kālayukta . | ... |
| 4238 | 1059 | 1194 | 543 | 311-12 | *1136-37 | 50 Ānala . | 53 Siddhārthin . | ... |
| 4239 | 1060 | 1195 | 544 | 312-13 | 1137-38 | 51 Piṅgala . | 54 Raudra . | 1 Chaitra . |
| 4240 | 1061 | 1196 | 545 | 313-14 | 1138-39 | 52 Kālayukta . | 55 Durmati . | ... |
| 4241 | 1062 | 1197 | 546 | 314-15 | 1139-40 | 53 Siddhārthin . | 56 Dandubhi . | 5 Śrāvaṇa . |
| 4242 | 1063 | 1198 | 547 | 315-16 | *1140-41 | 54 Raudra . | 57 Rudhirōdgārin . | ... |
| 4243 | 1064 | 1199 | 548 | 316-17 | 1141-42 | 55 Durmati . | 58 Raktāksha . | ... |
| 4244 | 1065 | 1200 | 549 | 317-18 | 1142-43 | 56 Dandubhi . | 59 Krōdhana . | 4 Āshāḍha . |
| 4245 | 1066 | 1201 | 550 | 318-19 | 1143-44 | 57 Rudhirōdgārin . | 60 Kshaya . | ... |
| 4246 | 1067 | 1202 | 551 | 319-20 | *1144-45 | 58 Raktāksha . | 1 Prabhava . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 23 Mar. (83) | 3 Tues. | 17 50 0 | 2 Mar. (62) | 3 Tues. | 9902-5202 | 184-6076 | 217-9258 | 4222 | |
| 24 Mar. (83) | 5 Thur. | 0 2 30 | 21 Mar. (80) | 2 Mon. . | 9937-1598 | 120-5911 | 209-2355 | 4223 | |
| 24 Mar. (83) | 6 Fri. . | 6 15 0 | 11 Mar. (70) | 0 Sat. . | 151-4751 | 4-1174 | 241-1494 | 4224 | |
| 24 Mar. (83) | 0 Sat. . | 12 27 30 | 28 Feb. (59) | 4 Wed. | 27-1585 | 851-3523 | 210-3256 | 4225 | |
| 23 Mar. (83) | 1 Sun. . | 18 40 0 | 18 Mar. (78) | 3 Tues. | 61-7981 | 787-3358 | 261-6353 | 4226 | |
| 24 Mar. (83) | 3 Tues. | 0 52 30 | 8 Mar. (67) | 1 Sun. . | 276-1134 | 670-8622 | 233-5493 | 4227 | |
| 24 Mar. (83) | 4 Wed. | 7 5 0 | 25 Feb. (56) | 5 Thur. | 151-7967 | 518-0970 | 202-7254 | 4228 | |
| 24 Mar. (83) | 5 Thur. | 13 17 30 | 15 Mar. (74) | 3 Tues. | 9847-8045 | 416-7889 | 251-2974 | 4229 | |
| 23 Mar. (83) | 6 Fri. . | 19 30 0 | 3 Mar. (63) | 0 Sat. . | 9723-4879 | 265-0237 | 220-4734 | 4230 | |
| 24 Mar. (83) | 1 Sun. . | 1 42 30 | 22 Mar. (81) | 6 Fri. . | 9758-1275 | 201-0072 | 271-7832 | 4231 | |
| 24 Mar. (83) | 2 Mon. . | 7 55 0 | 12 Mar. (71) | 4 Wed. | 9972-4428 | 84-5337 | 243-7071 | 4232 | |
| 24 Mar. (83) | 3 Tues. | 14 7 30 | 2 Mar. (61) | 2 Mon. . | 186-7580 | 968-0600 | 215-6120 | 4233 | |
| 23 Mar. (83) | 4 Wed. | 20 20 0 | 20 Mar. (80) | 1 Sun. . | 221-3976 | 904-0436 | 266-9208 | 4234 | |
| 24 Mar. (83) | 6 Fri. . | 2 32 30 | 9 Mar. (68) | 5 Thur. | 97-0810 | 751-2784 | 236-0969 | 4235 | |
| 24 Mar. (83) | 0 Sat. . | 8 45 0 | 26 Feb. (57) | 2 Mon. . | 9972-7644 | 598-5132 | 265-2730 | 4236 | |
| 24 Mar. (83) | 1 Sun. . | 14 57 30 | 17 Mar. (76) | 1 Sun. . | 7-4040 | 534-4967 | 256-5727 | 4237 | |
| 23 Mar. (83) | 2 Mon. . | 21 10 0 | 5 Mar. (65) | 5 Thur. | 9883-0874 | 381-7315 | 225-7589 | 4238 | |
| 24 Mar. (83) | 4 Wed. | 3 22 30 | 22 Feb. (53) | 2 Mon. . | 9758-7708 | 228-0664 | 194-9350 | 4239 | |
| 24 Mar. (83) | 5 Thur. | 9 35 0 | 13 Mar. (72) | 1 Sun. . | 9793-4104 | 134-9498 | 246-2448 | 4240 | |
| 24 Mar. (83) | 6 Fri. . | 15 47 30 | 3 Mar. (62) | 6 Fri. . | 7-7257 | 48-4763 | 218-1587 | 4241 | |
| 23 Mar. (83) | 0 Sat. . | 22 0 0 | 21 Mar. (81) | 5 Thur. | 42-3653 | 984-4598 | 209-4685 | 4242 | |
| 24 Mar. (83) | 2 Mon. . | 4 12 30 | 11 Mar. (70) | 3 Tues. | 256-6806 | 867-9862 | 241-3823 | 4243 | |
| 24 Mar. (83) | 3 Tues. | 10 25 0 | 28 Feb. (59) | 0 Sat. . | 132-3640 | 715-2210 | 210-5585 | 4244 | |
| 24 Mar. (83) | 4 Wed. | 16 37 30 | 19 Mar. (78) | 6 Fri. . | 167-0036 | 651-2045 | 261-2882 | 4245 | |
| 23 Mar. (83) | 5 Thur. | 22 50 0 | 1 Mar. (67) | 3 Tues. | 42-6889 | 498-4393 | 231-0444 | 4246 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4247 | 1068 | 1203 | 552 | 320-21 | 1145-46 | 59 Krōdhana . | 2 Vibhava . | 2 Vaiśākha . |
| 4248 | 1069 | 1204 | 553 | 321-22 | 1146-47 | 60 Kshaya . | 3 Śukla . | ... |
| 4249 | 1070 | 1205 | 554 | 322-23 | 1147-48 | 1 Prabhava . | 4 Pramōda . | 6 Bhādrapada . |
| 4250 | 1071 | 1206 | 555 | 323-24 | *1148-49 | 2 Vibhava . | 5 Prajāpati . | ... |
| 4251 | 1072 | 1207 | 556 | 324-25 | 1149-50 | 3 Śukla . | 6 Aṅgiras . | ... |
| 4252 | 1073 | 1208 | 557 | 325-26 | 1150-51 | 4 Pramōda . | 7 Śrīmukha . | 5 Śrāvapa . |
| 4253 | 1074 | 1209 | 558 | 326-27 | 1151-52 | 5 Prajāpati . | 8 Bhāva . | ... |
| 4254 | 1075 | 1210 | 559 | 327-28 | *1152-53 | 6 Aṅgiras . | 9 Yuvan . | ... |
| 4255 | 1076 | 1211 | 560 | 328-29 | 1153-54 | 7 Śrīmukha . | 10 Dhātṛi . | 3 Jyēṣṭha . |
| 4256 | 1077 | 1212 | 561 | 329-30 | 1154-55 | 8 Bhāva . | 11 Īsvara . | ... |
| 4257 | 1078 | 1213 | 562 | 330-31 | 1155-56 | 9 Yuvan . | 12 Bahudhānya . | ... |
| 4258 | 1079 | 1214 | 563 | 331-32 | *1156-57 | 10 Dhātṛi . | 13 Pramāthin . | 1 Chaitra . |
| 4259 | 1080 | 1215 | 564 | 332-33 | 1157-58 | 11 Īsvara . | 14 Vikrama . | ... |
| 4260 | 1081 | 1216 | 565 | 333-34 | 1158-59 | 12 Bahudhānya . | 15 Vṛisha . | 5 Śrāvapa . |
| 4261 | 1082 | 1217 | 566 | 334-35 | 1159-60 | 13 Pramāthin . | 16 Chitrabhānu . | ... |
| 4262 | 1083 | 1218 | 567 | 335-36 | *1160-61 | 14 Vikrama . | 17 Subhānu† . | ... |
| 4263 | 1084 | 1219 | 568 | 336-37 | 1161-62 | 15 Vṛisha . | 19 Pārthiva . | 4 Āshāḍha . |
| 4264 | 1085 | 1220 | 569 | 337-38 | 1162-63 | 16 Chitrabhānu . | 20 Vyasa . | ... |
| 4265 | 1086 | 1221 | 570 | 338-39 | 1163-64 | 17 Subhānu . | 21 Sarvajit . | ... |
| 4266 | 1087 | 1222 | 571 | 339-40 | *1164-65 | 18 Tāraka . | 22 Sarvadhārin . | 2 Vaiśākha . |
| 4267 | 1088 | 1223 | 572 | 340-41 | 1165-66 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4268 | 1089 | 1224 | 573 | 341-42 | 1166-67 | 20 Vyasa . | 24 Vikṛita . | 6 Bhādrapada . |
| 4269 | 1090 | 1225 | 574 | 342-43 | 1167-68 | 21 Sarvajit . | 25 Kṛera . | ... |
| 4270 | 1091 | 1226 | 575 | 343-44 | *1168-69 | 22 Sarvadhārin . | 26 Nandan . | ... |
| 4271 | 1092 | 1227 | 576 | 344-45 | 1169-70 | 23 Virōdhin . | 27 Vṛisha . | 5 Śrāvapa . |

† 18 Tāraka was suppressed in the north

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LENI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 24 Mar. (83) | 0 Sat. . | 5 2 30 | 24 Feb. (55) | 0 Sat. . | 9918-3703 | 345-6741 | 200-2205 | 4247 |
| 24 Mar. (83) | 1 Sun. . | 11 15 0 | 15 Mar. (74) | 6 Fri. . | 9953-0099 | 281-8576 | 251-4803 | 4248 |
| 24 Mar. (83) | 2 Mon. . | 17 27 30 | 4 Mar. (63) | 3 Tues. | 9828-6934 | 128-8925 | 220-7063 | 4249 |
| 23 Mar. (83) | 3 Tues. | 23 40 0 | 22 Mar. (82) | 2 Mon. . | 9863-3326 | 64-8760 | 271-2161 | 4250 |
| 24 Mar. (83) | 5 Thur. | 5 52 30 | 12 Mar. (71) | 0 Sat. . | 77-6481 | 948-4024 | 243-9300 | 4251 |
| 24 Mar. (83) | 6 Fri. . | 12 5 0 | 2 Mar. (61) | 5 Thur. | 201-9634 | 831-9288 | 27-8439 | 4252 |
| 24 Mar. (83) | 0 Sat. . | 18 17 30 | 21 Mar. (80) | 4 Wed. | 326-6030 | 767-9126 | 267-1537 | 4253 |
| 24 Mar. (84) | 2 Mon. . | 0 30 0 | 9 Mar. (69) | 1 Sun. . | 202-2864 | 615-1471 | 236-3298 | 4254 |
| 24 Mar. (83) | 3 Tues. | 6 42 30 | 26 Feb. (57) | 5 Thur. | 77-9098 | 462-3819 | 205-5071 | 4255 |
| 24 Mar. (83) | 4 Wed. | 12 55 0 | 16 Mar. (75) | 3 Tues. | 9773-9776 | 362-0739 | 254-0778 | 4256 |
| 24 Mar. (83) | 5 Thur. | 19 7 30 | 6 Mar. (65) | 1 Sun. . | 9988-2928 | 245-6002 | 225-9918 | 4257 |
| 24 Mar. (84) | 0 Sat. . | 1 20 0 | 23 Feb. (54) | 5 Thur. | 9863-9762 | 92-8351 | 195-1679 | 4258 |
| 24 Mar. (83) | 1 Sun. . | 7 32 30 | 13 Mar. (72) | 4 Wed. | 9899-0158 | 29-8186 | 246-4777 | 4259 |
| 24 Mar. (83) | 2 Mon. . | 13 45 0 | 3 Mar. (62) | 2 Mon. . | 112-9311 | 912-3451 | 218-3916 | 4260 |
| 24 Mar. (83) | 3 Tues. | 19 57 30 | 22 Mar. (81) | 1 Sun. . | 147-5707 | 848-3285 | 269-7014 | 4261 |
| 24 Mar. (84) | 5 Thur. | 2 10 0 | 10 Mar. (70) | 5 Thur. | 23-2541 | 695-5633 | 238-8774 | 4262 |
| 24 Mar. (83) | 6 Fri. . | 8 22 30 | 27 Feb. (58) | 2 Mon. . | 9899-3375 | 542-7982 | 208-0536 | 4263 |
| 24 Mar. (83) | 0 Sat. . | 14 35 0 | 18 Mar. (77) | 1 Sun. . | 9933-5672 | 478-7816 | 259-3633 | 4264 |
| 24 Mar. (83) | 1 Sun. . | 20 47 30 | 7 Mar. (66) | 5 Thur. | 9809-2605 | 326-0164 | 228-5395 | 4265 |
| 24 Mar. (84) | 3 Tues. | 3 0 0 | 25 Feb. (56) | 3 Tues. | 23-5758 | 209-5429 | 200-4534 | 4266 |
| 24 Mar. (83) | 4 Wed. | 9 12 30 | 15 Mar. (74) | 2 Mon. | 58-2354 | 145-5264 | 251-7632 | 4267 |
| 24 Mar. (83) | 5 Thur. | 15 25 0 | 4 Mar. (63) | 6 Fri. . | 9933-6988 | 992-7612 | 220-9392 | 4268 |
| 24 Mar. (83) | 6 Fri. . | 21 37 30 | 23 Mar. (82) | 5 Thur. | 9908-5284 | 928-7447 | 272-2489 | 4269 |
| 24 Mar. (84) | 1 Sun. . | 3 50 0 | 12 Mar. (72) | 3 Tues. | 182-8637 | 812-2712 | 244-1625 | 4270 |
| 24 Mar. (83) | 2 Mon. . | 10 2 30 | 1 Mar. (60) | 0 Sat. . | 58-5371 | 679-5059 | 218-3391 | 4271 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4272 | 1003 | 1223 | 577 | 345-46 | 1170-71 | 24 Vikṛita . . | 28 Jaya . . | ... |
| 4273 | 1004 | 1229 | 578 | 346-47 | 1171-72 | 25 Khara . . | 29 Manmatha . | ... |
| 4274 | 1005 | 1230 | 579 | 347-48 | *1172-73 | 26 Nandana . . | 30 Durmukha . | 3 Jyēṣṭha . |
| 4275 | 1006 | 1231 | 580 | 348-49 | 1173-74 | 27 Vijaya . . | 31 Hēmalamba . | ... |
| 4276 | 1007 | 1232 | 581 | 349-50 | 1174-75 | 28 Jaya . . | 32 Vilamba . . | ... |
| 4277 | 1008 | 1233 | 582 | 350-51 | 1175-76 | 29 Manmatha . | 33 Vikārin . . | 1 Chaitra . |
| 4278 | 1009 | 1234 | 583 | 351-52 | *1176-77 | 30 Durmukha . | 34 Śārvarin . . | ... |
| 4279 | 1100 | 1235 | 584 | 352-53 | 1177-78 | 31 Hēmalamba . | 35 Plava . . | 5 Śrāvapa . |
| 4280 | 1101 | 1236 | 585 | 353-54 | 1178-79 | 32 Vilamba . . | 36 Subhakṛit . | ... |
| 4281 | 1102 | 1237 | 586 | 354-55 | 1179-80 | 33 Vikārin . . | 37 Śōbhana . . | ... |
| 4282 | 1103 | 1238 | 587 | 355-56 | *1180-81 | 34 Śārvarin . . | 38 Krōdhin . . | 4 Āshāḍha . |
| 4283 | 1104 | 1239 | 588 | 356-57 | 1181-82 | 35 Plava . . | 39 Viśvāvasu . | ... |
| 4284 | 1105 | 1240 | 589 | 357-58 | 1182-83 | 36 Subhakṛit . | 40 Parābhava . | ... |
| 4285 | 1106 | 1241 | 590 | 358-59 | 1183-84 | 37 Śōbhana . . | 41 Plavaṅga . | 2 Vaiśākha . |
| 4286 | 1107 | 1242 | 591 | 359-60 | *1184-85 | 38 Krōdhin . . | 42 Kilaka . . | ... |
| 4287 | 1108 | 1243 | 592 | 360-61 | 1185-86 | 39 Viśvāvasu . | 43 Saumya . . | 6 Bhādrapada |
| 4288 | 1109 | 1244 | 593 | 361-62 | 1186-87 | 40 Parābhava . | 44 Sādhārapa . | ... |
| 4289 | 1110 | 1245 | 594 | 362-63 | 1187-88 | 41 Plavaṅga . . | 45 Virōdhakṛit . | ... |
| 4290 | 1111 | 1246 | 595 | 363-64 | *1188-89 | 42 Kilaka . . | 46 Paridhāvin . | 5 Śrāvapa . |
| 4291 | 1112 | 1247 | 596 | 364-65 | 1189-90 | 43 Saumya . . | 47 Pramādin . | ... |
| 4292 | 1113 | 1248 | 597 | 365-66 | 1190-91 | 44 Sādhārapa . | 48 Ānanda . . | ... |
| 4293 | 1114 | 1249 | 598 | 366-67 | 1191-92 | 45 Virōdhakṛit . | 49 Rākshasa . | 3 Jyēṣṭha . |
| 4294 | 1115 | 1250 | 599 | 367-68 | *1192-93 | 46 Paridhāvin . | 50 Anala . . | ... |
| 4295 | 1116 | 1251 | 600 | 368-69 | 1193-94 | 47 Pramādin . | 51 Piṅgala . . | { 7 Āsrina 10 Pausa (kāk.) } |
| 4296 | 1117 | 1252 | 601 | 369-70 | 1194-95 | 48 Ānanda . . | 52 Kālayukta . | 1 Chaitra . |

* Tārpa was suppressed in the north.

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| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day of month, A.D. | Week-day. | Time of true Mēṣa-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 24 Mar. (83) | 3 Tues. | 16 15 0 | 20 Mar. (79) | 6 Fri. . | 93-1767 | 595-4895 | 264-6488 | 4272 | |
| 24 Mar. (83) | 4 Wed. | 22 27 30 | 9 Mar. (68) | 3 Tues. | 9968-8601 | 442-7243 | 233-8250 | 4273 | |
| 24 Mar. (84) | 6 Fri. . | 4 40 0 | 26 Feb. (57) | 0 Sat. . | 9844-5534 | 289-9591 | 203-0010 | 4274 | |
| 24 Mar. (83) | 0 Sat. . | 10 52 30 | 16 Mar. (75) | 6 Fri. . | 9879-1831 | 225-9426 | 254-3107 | 4275 | |
| 24 Mar. (83) | 1 Sun. . | 17 5 0 | 6 Mar. (65) | 4 Wed. | 93-4983 | 109-4690 | 226-2247 | 4276 | |
| 24 Mar. (83) | 2 Mon. . | 23 17 30 | 23 Feb. (54) | 1 Sun. . | 9969-1816 | 956-7039 | 195-4008 | 4277 | |
| 24 Mar. (84) | 4 Wed. | 5 30 0 | 13 Mar. (73) | 0 Sat. . | 3-8212 | 892-6873 | 246-7106 | 4278 | |
| 24 Mar. (83) | 5 Thur. | 11 42 30 | 3 Mar. (62) | 5 Thur. | 218-1365 | 776-2138 | 218-6245 | 4279 | |
| 24 Mar. (83) | 6 Fri. . | 17 55 0 | 22 Mar. (81) | 4 Wed. | 252-7762 | 712-1973 | 269-9343 | 4280 | |
| 25 Mar. (84) | 1 Sun. . | 0 7 30 | 11 Mar. (70) | 1 Sun. . | 128-4595 | 559-4320 | 239-1103 | 4281 | |
| 24 Mar. (84) | 2 Mon. . | 6 20 0 | 28 Feb. (59) | 5 Thur. | 4-1429 | 406-6069 | 208-2851 | 4282 | |
| 24 Mar. (83) | 3 Tues. | 12 32 30 | 18 Mar. (77) | 4 Wed. | 38-7825 | 342-3504 | 259-5962 | 4283 | |
| 24 Mar. (83) | 4 Wed. | 18 45 0 | 7 Mar. (66) | 1 Sun. . | 9914-4659 | 189-8851 | 228-7724 | 4284 | |
| 25 Mar. (84) | 6 Fri. . | 0 57 30 | 24 Feb. (55) | 5 Thur. | 9790-1493 | 37-1200 | 197-9485 | 4285 | |
| 24 Mar. (84) | 0 Sat. . | 7 10 0 | 15 Mar. (75) | 5 Thur. | 163-4208 | 9-3951 | 251-9060 | 4286 | |
| 24 Mar. (83) | 1 Sun. . | 13 22 30 | 4 Mar. (63) | 2 Mon. . | 39-1042 | 856-6300 | 221-1721 | 4287 | |
| 24 Mar. (83) | 2 Mon. . | 19 35 0 | 23 Mar. (82) | 1 Sun. . | 73-7438 | 792-6134 | 272-4618 | 4288 | |
| 25 Mar. (84) | 4 Wed. | 1 47 30 | 13 Mar. (72) | 6 Fri. . | 288-0591 | 676-1399 | 244-3958 | 4289 | |
| 24 Mar. (84) | 5 Thur. | 8 0 0 | 1 Mar. (61) | 3 Tues. | 163-7425 | 523-2747 | 213-6720 | 4290 | |
| 24 Mar. (83) | 6 Fri. . | 14 12 30 | 19 Mar. (78) | 1 Sun. | 9839-7302 | 423-0665 | 262-1439 | 4291 | |
| 24 Mar. (83) | 0 Sat. . | 20 25 0 | 8 Mar. (67) | 5 Thur. | 9735-4336 | 270-3014 | 231-3201 | 4292 | |
| 25 Mar. (84) | 2 Mon. . | 2 37 30 | 26 Feb. (57) | 3 Tues. | 9949-7488 | 153-8278 | 203-2339 | 4293 | |
| 24 Mar. (84) | 3 Tues. | 8 50 0 | 16 Mar. (76) | 2 Mon. . | 9984-3885 | 89-811a | 254-5436 | 4294 | |
| 24 Mar. (83) | 4 Wed. | 15 2 30 | 6 Mar. (65) | 0 Sat. . | 198-7037 | 973-3377 | 226-4576 | 4295 | |
| 24 Mar. (83) | 5 Thur. | 21 15 0 | 23 Feb. (54) | 4 Wed. | 74-3871 | 820-6726 | 195-6337 | 4296 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēbhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4297 | 1118 | 1253 | 602 | 370-71 | 1195-96 | 49 Rākṣasa . | 53 Siddhārthīn . | ... |
| 4298 | 1119 | 1254 | 603 | 371-72 | *1196-97 | 50 Anant . . | 54 Raudra . | 5 Śrāvaga . |
| 4299 | 1120 | 1255 | 604 | 372-73 | 1197-98 | 51 Pīṅga . . | 55 Dumatī . | ... |
| 4300 | 1121 | 1256 | 605 | 373-74 | 1198-99 | 52 Kālaya .ta . | 56 Dundubhi . | ... |
| 4301 | 1122 | 1257 | 606 | 374-75 | 1199-1200 | 53 Siddhārthīn . | 57 Rudhīrōdgārīn . | 4 Āshādha . |
| 4302 | 1123 | 1258 | 607 | 375-76 | *1200-01 | 54 Raudra . . | 58 Raktāksha . | ... |
| 4303 | 1124 | 1259 | 608 | 376-77 | 1201-02 | 55 Dumatī . . | 59 Krōdhana . | ... |
| 4304 | 1125 | 1260 | 609 | 377-78 | 1202-03 | 56 Dundubhi . | 60 Kshaya . | 2 Vaiśākha . |
| 4305 | 1126 | 1261 | 610 | 378-79 | 1203-04 | 57 Rudhīrōdgārīn . | 1 Prabhava . | ... |
| 4306 | 1127 | 1262 | 611 | 379-80 | *1204-05 | 58 Raktāksha . | 2 Vibhava . | 6 Bhādrapada . |
| 4307 | 1128 | 1263 | 612 | 380-81 | 1205-06 | 59 Krōdhana . | 3 Sukla . . | ... |
| 4308 | 1129 | 1264 | 613 | 381-82 | 1206-07 | 60 Kshaya . | 4 Pramōda . | ... |
| 4309 | 1130 | 1265 | 614 | 382-83 | 1207-08 | 1 Prabhava . | 5 Prajāpati . | 4 Āshādha . |
| 4310 | 1131 | 1266 | 615 | 383-84 | *1208-09 | 2 Vibhava . | 6 Aṅgiras . | ... |
| 4311 | 1132 | 1267 | 616 | 384-85 | 1209-10 | 3 Sukla . . | 7 Śrīmukha . | ... |
| 4312 | 1133 | 1268 | 617 | 385-86 | 1210-11 | 4 Pramōda . | 8 Bhāva . . | 3 Jyēṣṭha . |
| 4313 | 1134 | 1269 | 618 | 386-87 | 1211-12 | 5 Prajāpati . | 9 Yuvan . . | ... |
| 4314 | 1135 | 1270 | 619 | 387-88 | *1212-13 | 6 Aṅgiras . | 10 Dhātṛi . | { 7 Āvina 11 Māgha (<i>ksh.</i>) 12 Phālguna } |
| 4315 | 1136 | 1271 | 620 | 388-89 | 1213-14 | 7 Śrīmukha . | 11 Īvara . | |
| 4316 | 1137 | 1272 | 621 | 389-90 | 1214-15 | 8 Bhāva . | 12 Bahudhānya . | |
| 4317 | 1138 | 1273 | 622 | 390-91 | 1215-16 | 9 Yuvan . . | 13 Pramāthin . | 5 Śrāvaga . |
| 4318 | 1139 | 1274 | 623 | 391-92 | *1216-17 | 10 Dhātṛi . | 14 Vikrama . | ... |
| 4319 | 1140 | 1275 | 624 | 392-93 | 1217-18 | 11 Īvara . | 15 Vīsha . . | ... |
| 4320 | 1141 | 1276 | 625 | 393-94 | 1218-19 | 12 Bahudhānya . | 16 Chitrabhānu . | 3 Jyēṣṭha . |
| 4321 | 1142 | 1277 | 626 | 394-95 | 1219-20 | 13 Pramāthin . | 17 Subhānu . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ESDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 25 Mar. (84) | 0 Sat. . | 3 27 30 | 14 Mar. (73) | 3 Tues. | 109-0267 | 756-5561 | 246-9435 | 4297 |
| 24 Mar. (84) | 1 Sun. . | 9 40 0 | 2 Mar. (62) | 0 Sat. . | 9984-7101 | 603-7908 | 216-1196 | 4298 |
| 24 Mar. (83) | 2 Mon. . | 15 52 30 | 21 Mar. (80) | 6 Fri. . | 19-3497 | 539-7744 | 267-4293 | 4299 |
| 24 Mar. (83) | 3 Tues. | 22 5 0 | 10 Mar. (69) | 3 Tues. | 9895-0331 | 387-0092 | 236-6054 | 4300 |
| 25 Mar. (84) | 5 Thur. | 4 17 30 | 27 Feb. (58) | 0 Sat. . | 9770-7165 | 234-2441 | 205-7817 | 4301 |
| 24 Mar. (84) | 6 Fri. . | 10 40 0 | 17 Mar. (77) | 6 Fri. . | 9805-3561 | 170-2276 | 257-0914 | 4302 |
| 24 Mar. (83) | 0 Sat. . | 16 42 30 | 7 Mar. (66) | 4 Wed. | 19-6714 | 53-7540 | 229-0054 | 4303 |
| 24 Mar. (83) | 1 Sun. . | 22 55 0 | 25 Feb. (56) | 2 Mon. . | 233-9866 | 637-3994 | 200-0192 | 4304 |
| 25 Mar. (84) | 3 Tues. | 5 7 30 | 16 Mar. (75) | 1 Sun. . | 268-6263 | 873-2640 | 262-2289 | 4305 |
| 24 Mar. (84) | 4 Wed. | 11 20 0 | 4 Mar. (64) | 5 Thur. | 144-3066 | 720-4987 | 221-4051 | 4306 |
| 24 Mar. (83) | 5 Thur. | 17 32 30 | 23 Mar. (82) | 4 Wed. | 178-9493 | 656-4823 | 272-7148 | 4307 |
| 24 Mar. (83) | 6 Fri. . | 23 45 0 | 12 Mar. (71) | 1 Sun. | 54-6327 | 503-7171 | 241-8910 | 4308 |
| 25 Mar. (84) | 1 Sun. . | 5 57 30 | 1 Mar. (60) | 5 Thur. | 9930-3161 | 350-9519 | 211-0672 | 4309 |
| 24 Mar. (84) | 2 Mon. | 12 10 0 | 19 Mar. (79) | 4 Wed. | 9064-9557 | 236-9354 | 262-3769 | 4310 |
| 24 Mar. (83) | 3 Tues. | 18 22 30 | 8 Mar. (67) | 1 Sun. . | 9840-6399 | 134-1702 | 231-5529 | 4311 |
| 25 Mar. (84) | 5 Thur. | 0 35 0 | 26 Feb. (57) | 6 Fri. . | 54-9544 | 13-6966 | 203-4669 | 4312 |
| 25 Mar. (84) | 6 Fri. . | 6 47 30 | 17 Mar. (76) | 5 Thur. | 89-5939 | 953-6801 | 254-7766 | 4313 |
| 24 Mar. (84) | 0 Sat. . | 13 0 0 | 6 Mar. (66) | 3 Tues. | 303-9092 | 637-2065 | 226-6906 | 4314 |
| 24 Mar. (83) | 1 Sun. . | 19 12 30 | 24 Mar. (83) | 1 Sun. . | 9099-0169 | 736-8983 | 275-2625 | 4315 |
| 25 Mar. (84) | 3 Tues. | 1 25 0 | 14 Mar. (73) | 6 Fri. . | 214-2321 | 620-4249 | 247-1765 | 4316 |
| 25 Mar. (84) | 4 Wed. | 7 37 30 | 3 Mar. (62) | 3 Tues. | 89-9156 | 467-6597 | 215-3526 | 4317 |
| 24 Mar. (84) | 5 Thur. | 13 50 0 | 20 Mar. (80) | 1 Sun. . | 9785-9333 | 367-3516 | 264-9245 | 4318 |
| 24 Mar. (83) | 6 Fri. . | 20 2 30 | 10 Mar. (69) | 6 Fri. . | 0-2385 | 250-8780 | 235-6594 | 4319 |
| 25 Mar. (84) | 1 Sun. . | 2 15 0 | 27 Feb. (58) | 3 Tues. | 9875-9219 | 98-1128 | 206-0146 | 4320 |
| 25 Mar. (84) | 2 Mon. . | 8 27 30 | 18 Mar. (77) | 2 Mon. . | 9910-5615 | 344-963 | 257-3243 | 4321 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4322 | 1143 | 1278 | 627 | 395-96 | *1220-21 | 14 Vikrama | 18 Tārāṇa . | ... |
| 4023 | 1144 | 1279 | 628 | 396-97 | 1221-22 | 15 Vṛiṣha . | 19 Pārthiva . | 2 Vaiśākha . |
| 4324 | 1145 | 1280 | 629 | 397-98 | 1222-23 | 16 Chitrabhānu . | 20 Vyaya . | ... |
| 4125 | 1146 | 1281 | 630 | 398-99 | 1223-24 | 17 Subhānu . | 21 Sarvajit . | 6 Bhādrapada |
| 4326 | 1147 | 1282 | 631 | 399-400 | *1224-25 | 18 Tārāṇa . | 22 Sarvadhārin . | ... |
| 4327 | 1148 | 1283 | 632 | 400-01 | 1225-26 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4328 | 1149 | 1284 | 633 | 401-02 | 1226-27 | 20 Vyaya . | 24 Vikṛita . | 4 Āshāḍha |
| 4329 | 1150 | 1285 | 634 | 402-03 | 1227-28 | 21 Sarvajit . | 25 Khara . | ... |
| 4330 | 1151 | 1286 | 635 | 403-04 | *1228-29 | 22 Sarvadhārin . | 26 Nandana . | ... |
| 4331 | 1152 | 1287 | 636 | 404-05 | 1229-30 | 23 Virōdhin . | 27 Vijaya . | 3 Jyēṣṭha . |
| 4332 | 1153 | 1288 | 637 | 405-06 | 1230-31 | 24 Vikṛita . | 28 Jaya . | ... |
| 4333 | 1154 | 1289 | 638 | 406-07 | 1231-32 | 25 Khara . | 29 Manmatha . | 7 Āvina |
| 4334 | 1155 | 1290 | 639 | 407-08 | *1232-33 | 26 Nandana . | 30 Darmukha . | ... |
| 4335 | 1156 | 1291 | 640 | 408-09 | 1233-34 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4336 | 1157 | 1292 | 641 | 409-10 | 1234-35 | 28 Jaya . | 32 Vilamba . | 5 Śrāvaṇa . |
| 4337 | 1158 | 1293 | 642 | 410-11 | 1235-36 | 29 Manmatha . | 33 Vikārin . | ... |
| 4338 | 1159 | 1294 | 643 | 411-12 | *1236-37 | 30 Darmukha . | 34 Śārvarin . | ... |
| 4339 | 1160 | 1295 | 644 | 412-13 | 1237-38 | 31 Hēmalamba . | 35 Plava . | 3 Jyēṣṭha . |
| 4340 | 1161 | 1296 | 645 | 413-14 | 1238-39 | 32 Vilamba . | 36 Śubhakṛit . | ... |
| 4341 | 1162 | 1297 | 646 | 414-15 | 1239-40 | 23 Vikārin . | 37 Śōbhana . | ... |
| 4342 | 1163 | 1298 | 647 | 415-16 | *1240-41 | 34 Śārvarin . | 38 Krōdhin . | 2 Vaiśākha |
| 4343 | 1164 | 1299 | 648 | 416-17 | 1241-42 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4344 | 1165 | 1300 | 649 | 417-18 | 1242-43 | 36 Śubhakṛit . | 40 Parābhava . | 6 Bhādrapada |
| 4345 | 1166 | 1301 | 650 | 418-19 | 1243-44 | 37 Śōbhana . | 41 Plavaṅga . | ... |
| 4346 | 1167 | 1302 | 651 | 419-20 | *1244-45 | 38 Krōdhin . | 42 Kīlaka . | ... |

LXI—*Contd.*

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 24 Mar. (84) | 3 Tues. | 14 40 0 | 7 Mar. (67) | 0 Sat. | 124-8768 | 917-6228 | 229-2383 | 4322 |
| 24 Mar. (83) | 4 Wed. | 20 52 30 | 24 Feb. (55) | 4 Wed. | 0-5602 | 754-8576 | 198-4143 | 4323 |
| 25 Mar. (84) | 6 Fri. | 3 5 0 | 15 Mar. (74) | 3 Tues. | 35-1998 | 700-8410 | 249-7241 | 4324 |
| 25 Mar. (84) | 0 Sat. | 9 17 30 | 4 Mar. (63) | 0 Sat. | 9910-8832 | 548-0759 | 218-9002 | 4325 |
| 24 Mar. (84) | 1 Sun. | 15 30 0 | 22 Mar. (82) | 6 Fri. | 9945-6228 | 484-0594 | 270-2099 | 4326 |
| 24 Mar. (83) | 2 Mon. | 21 42 30 | 11 Mar. (70) | 3 Tues. | 9821-2062 | 331-2941 | 239-3801 | 4327 |
| 25 Mar. (84) | 4 Wed. | 3 55 0 | 1 Mar. (60) | 1 Sun. | 35-5215 | 214-8206 | 211-3001 | 4328 |
| 25 Mar. (84) | 5 Thur. | 10 7 30 | 20 Mar. (79) | 0 Sat. | 70-1611 | 150-8142 | 262-6098 | 4329 |
| 24 Mar. (84) | 6 Fri. | 16 20 0 | 8 Mar. (68) | 4 Wed. | 9945-8444 | 998-0389 | 231-7858 | 4330 |
| 24 Mar. (83) | 0 Sat. | 22 32 30 | 26 Feb. (57) | 2 Mon. | 160-1597 | 881-5553 | 203-6998 | 4331 |
| 25 Mar. (84) | 2 Mon. | 4 45 0 | 17 Mar. (76) | 1 Sun. | 194-7993 | 817-5489 | 255-0095 | 4332 |
| 25 Mar. (84) | 3 Tues. | 10 57 30 | 6 Mar. (65) | 5 Thur. | 70-4827 | 664-7836 | 224-1857 | 4333 |
| 24 Mar. (84) | 4 Wed. | 17 10 0 | 24 Mar. (84) | 4 Wed. | 105-1223 | 600-7672 | 275-4954 | 4334 |
| 24 Mar. (83) | 5 Thur. | 23 22 30 | 13 Mar. (72) | 1 Sun. | 9980-8057 | 448-0020 | 244-6716 | 4335 |
| 25 Mar. (84) | 0 Sat. | 5 35 0 | 2 Mar. (61) | 5 Thur. | 9856-4891 | 295-2368 | 213-8476 | 4336 |
| 25 Mar. (84) | 1 Sun. | 11 47 30 | 21 Mar. (80) | 4 Wed. | 9891-1287 | 231-2203 | 265-1574 | 4337 |
| 24 Mar. (84) | 2 Mon. | 18 0 0 | 9 Mar. (69) | 1 Sun. | 9766-8121 | 78-4551 | 234-3335 | 4338 |
| 25 Mar. (84) | 4 Wed. | 0 12 30 | 27 Feb. (58) | 6 Fri. | 9981-1274 | 961-9816 | 206-2475 | 4339 |
| 25 Mar. (84) | 5 Thur. | 6 25 0 | 18 Mar. (77) | 5 Thur. | 15-7670 | 897-9940 | 257-5572 | 4340 |
| 25 Mar. (84) | 6 Fri. | 12 37 30 | 8 Mar. (67) | 3 Tues. | 230-0823 | 781-4915 | 229-4612 | 4341 |
| 24 Mar. (84) | 0 Sat. | 18 50 0 | 25 Feb. (56) | 0 Sat. | 105-7656 | 628-7263 | 198-6473 | 4342 |
| 25 Mar. (84) | 2 Mon. | 1 2 30 | 15 Mar. (74) | 6 Fri. | 140-4053 | 564-7098 | 249-9570 | 4343 |
| 25 Mar. (84) | 3 Tues. | 7 15 0 | 4 Mar. (63) | 3 Tues. | 10-6887 | 411-9446 | 219-1331 | 4344 |
| 25 Mar. (84) | 4 Wed. | 13 27 30 | 23 Mar. (82) | 2 Mon. | 50-7283 | 347-9281 | 270-4428 | 4345 |
| 25 Mar. (84) | 5 Thur. | 19 40 0 | 11 Mar. (71) | 3 Fri. | 9926-4116 | 195-1629 | 239-6190 | 4346 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|-------------------|----------------------------------|---------|----------|---------------------|-------------------------|--|
| Kali | Saka. | Charāitī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4347 | 1168 | 1303 | 652 | 420-21 | 1245-46 | 39 Viśvāvasu . | 43 Saumya . | 4 Āshāḍha . |
| 4348 | 1169 | 1304 | 653 | 421-22 | 1246-47 | 40 Parābhava . | 44 Sādhārāṇa† . | ... |
| 4349 | 1170 | 1305 | 654 | 422-23 | 1247-48 | 41 Phavaṅga . | 46 Paridhāvin . | ... |
| 4350 | 1171 | 1306 | 655 | 423-24 | *1248-49 | 42 Kilaka . | 47 Pramādin . | 3 Jyēshtha . |
| 4351 | 1172 | 1307 | 656 | 424-25 | 1249-50 | 43 Saumya . | 48 Ananda . | ... |
| 4352 | 1173 | 1308 | 657 | 425-26 | 1250-51 | 44 Sādhārāṇa . | 49 Rākṣasa . | 7 Āvina . |
| 4353 | 1174 | 1309 | 658 | 426-27 | 1251-52 | 45 Virōdhakṛit . | 50 Anala . | ... |
| 4354 | 1175 | 1310 | 659 | 427-28 | *1252-53 | 46 Paridhāvin . | 51 Piṅgala . | ... |
| 4355 | 1176 | 1311 | 660 | 428-29 | 1253-54 | 47 Pramādin . | 52 Kālayukta . | 5 Śrāvapa . |
| 4356 | 1177 | 1312 | 661 | 429-30 | 1254-55 | 48 Ananda . | 53 Siddhārthin . | ... |
| 4357 | 1178 | 1313 | 662 | 430-31 | 1255-56 | 49 Rākṣasa . | 54 Raudra . | ... |
| 4358 | 1179 | 1314 | 663 | 431-32 | *1256-57 | 50 Anala . | 55 Durmati . | 3 Jyēshtha . |
| 4359 | 1180 | 1315 | 664 | 432-33 | 1257-58 | 51 Piṅgala . | 56 Dandubhi . | ... |
| 4360 | 1181 | 1316 | 665 | 433-34 | 1258-59 | 52 Kālayukta . | 57 Rudhīrōd- gārīn . | { 8 Kārtika 10 Pausa (<i>ksh.</i>) } |
| 4361 | 1182 | 1317 | 666 | 434-35 | 1259-60 | 53 Siddhārthin . | 58 Raktāksha . | 1 Chaitra . |
| 4362 | 1183 | 1318 | 667 | 435-36 | *1260-61 | 54 Raudra . | 59 Krōdhapa . | ... |
| 4363 | 1184 | 1319 | 668 | 436-37 | 1261-62 | 55 Durmati . | 60 Kshaya . | 6 Bhādrapada . |
| 4364 | 1185 | 1320 | 669 | 437-38 | 1262-63 | 56 Dandubhi . | 1 Prabhava . | ... |
| 4365 | 1186 | 1321 | 670 | 438-39 | 1263-64 | 57 Rudhīrōdgārīn . | 2 Vibhava . | ... |
| 4366 | 1187 | 1322 | 671 | 439-40 | *1264-65 | 58 Raktāksha . | 3 Sukla . | 4 Āshāḍha . |
| 4367 | 1188 | 1323 | 672 | 440-41 | 1265-66 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4368 | 1189 | 1324 | 673 | 441-42 | 1266-67 | 60 Kshaya . | 5 Prājāpati . | ... |
| 4369 | 1190 | 1325 | 674 | 442-43 | 1267-68 | 1 Prabhava . | 6 Aṅgiras . | 3 Jyēshtha . |
| 4370 | 1191 | 1326 | 675 | 443-44 | *1268-69 | 2 Vibhava . | 7 Śrīmukha . | ... |
| 4371 | 1192 | 1327 | 676 | 444-45 | 1269-70 | 3 Sukla . | 8 Bhāva . | 7 Āvina . |

† 45 Virōdhakṛit was suppressed in the north

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 25 Mar. (84) | 0 Sat. . | 1 52 30 | 28 Feb. (59) | 3 Tues. | 9802-0050 | 42-3977 | 208-7952 | 4347 | |
| 25 Mar. (84) | 1 Sun. . | 8 5 0 | 20 Mar. (79) | 3 Tues. | 175-3365 | 14-8728 | 262-8427 | 4348 | |
| 25 Mar. (84) | 2 Mon. . | 14 17 30 | 9 Mar. (68) | 0 Sat. . | 51-0499 | 861-9077 | 232-0187 | 4349 | |
| 24 Mar. (84) | 3 Tues. | 20 30 0 | 27 Feb. (58) | 5 Thur. | 265-3651 | 745-4341 | 203-9327 | 4350 | |
| 25 Mar. (84) | 5 Thur. | 2 42 30 | 17 Mar. (76) | 4 Wed. | 300-0047 | 681-4176 | 255-2424 | 4351 | |
| 25 Mar. (84) | 6 Fri. . | 8 55 0 | 6 Mar. (65) | 1 Sun. . | 175-6881 | 528-6524 | 224-4186 | 4352 | |
| 25 Mar. (84) | 0 Sat. . | 15 7 30 | 24 Mar. (83) | 6 Fri. . | 9871-6059 | 428-3444 | 274-9905 | 4353 | |
| 24 Mar. (84) | 1 Sun. . | 21 20 0 | 12 Mar. (72) | 3 Tues. | 9747-3793 | 275-5791 | 242-1667 | 4354 | |
| 25 Mar. (84) | 3 Tues. | 3 32 30 | 2 Mar. (61) | 1 Sun. . | 9961-0945 | 159-1055 | 214-6605 | 4355 | |
| 25 Mar. (84) | 4 Wed. | 9 45 0 | 21 Mar. (80) | 0 Sat. . | 9996-3341 | 95-0891 | 265-3903 | 4356 | |
| 25 Mar. (84) | 5 Thur. | 15 57 30 | 11 Mar. (70) | 5 Thur. | 210-6494 | 978-6154 | 237-3042 | 4357 | |
| 24 Mar. (84) | 6 Fri. . | 22 10 0 | 28 Feb. (59) | 2 Mon. . | 86-3328 | 825-8503 | 206-4804 | 4358 | |
| 25 Mar. (84) | 1 Sun. . | 4 22 30 | 18 Mar. (77) | 1 Sun. . | 120-9724 | 761-8338 | 257-7901 | 4359 | |
| 25 Mar. (84) | 2 Mon. . | 10 35 0 | 7 Mar. (66) | 5 Thur. | 9996-6558 | 609-0686 | 226-9663 | 4360 | |
| 25 Mar. (84) | 3 Tues. | 16 47 30 | 24 Feb. (55) | 2 Mon. . | 9872-3392 | 456-3034 | 196-1424 | 4361 | |
| 24 Mar. (84) | 4 Wed. | 23 0 0 | 4 Mar. (74) | 1 Sun. . | 9906-9788 | 392-2869 | 247-4521 | 4362 | |
| 25 Mar. (84) | 6 Fri. . | 5 12 30 | 3 Mar. (62) | 5 Thur. | 9782-6622 | 239-5218 | 216-6282 | 4363 | |
| 25 Mar. (84) | 0 Sat. . | 11 25 0 | 22 Mar. (81) | 4 Wed. | 9817-3018 | 175-5062 | 267-9380 | 4364 | |
| 25 Mar. (84) | 1 Sun. . | 17 37 30 | 12 Mar. (71) | 2 Mon. . | 31-6171 | 59-0317 | 239-8519 | 4365 | |
| 24 Mar. (84) | 2 Mon. . | 23 50 0 | 29 Feb. (60) | 6 Fri. . | 9907-3065 | 906-2665 | 209-0281 | 4366 | |
| 25 Mar. (84) | 4 Wed. | 6 2 30 | 20 Mar. (79) | 6 Fri. . | 280-5720 | 878-5417 | 263-0756 | 4367 | |
| 25 Mar. (84) | 5 Thur. | 12 15 0 | 9 Mar. (68) | 3 Tues. | 156-2553 | 725-7764 | 232-2516 | 4368 | |
| 25 Mar. (84) | 6 Fri. . | 18 27 30 | 26 Feb. (57) | 0 Sat. . | 31-9387 | 573-0112 | 201-4278 | 4369 | |
| 25 Mar. (85) | 1 Sun. . | 0 40 0 | 16 Mar. (73) | 1 Fri. . | 66-5784 | 599-2864 | 255-4763 | 4370 | |
| 25 Mar. (84) | 2 Mon. . | 6 52 30 | 5 Mar. (64) | 3 Tues. | 9942-2617 | 56-2295 | 221-9137 | 4371 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4372 | 1193 | 1328 | 677 | 445-46 | 1270-71 | 4 Pramōda . | 9 Yuvan . | ... |
| 4373 | 1194 | 1329 | 678 | 446-47 | 1271-72 | 5 Prajāpati . | 10 Dhātṛi . | ... |
| 4374 | 1195 | 1330 | 679 | 447-48 | *1272-73 | 6 Jyēṣṭha . | 11 Śvara . | 4 Āshāḍha . |
| 4375 | 1196 | 1331 | 680 | 448-49 | 1273-74 | 7 Śrīmukha . | 12 Bahudhānya . | ... |
| 4376 | 1197 | 1332 | 681 | 449-50 | 1274-75 | 8 Bhāva . | 13 Pramāthin . | ... |
| 4377 | 1198 | 1333 | 682 | 450-51 | 1275-76 | 9 Yuvan . | 14 Vikrama . | 3 Jyēṣṭha . |
| 4378 | 1199 | 1334 | 683 | 451-52 | *1276-77 | 10 Dhātṛi . | 15 Vṛiṣa . | ... |
| 4379 | 1200 | 1335 | 684 | 452-53 | 1277-78 | 11 Śvara . | 16 Chitrabhānu . | { 9 Mārgasira 10 Pausa (<i>ksh.</i>) 12 Phālguna } |
| 4380 | 1201 | 1336 | 685 | 453-54 | 1278-79 | 12 Bahudhānya . | 17 Subhānu . | |
| 4381 | 1202 | 1337 | 686 | 454-55 | 1279-80 | 13 Pramāthin . | 18 Tārāya . | |
| 4382 | 1203 | 1338 | 687 | 455-56 | *1280-81 | 14 Vikrama . | 19 Pārthiva . | 5 Śrāvāya . |
| 4383 | 1204 | 1339 | 688 | 456-57 | 1281-82 | 15 Vṛiṣa . | 20 Vyāya . | ... |
| 4384 | 1205 | 1340 | 689 | 457-58 | 1282-83 | 16 Chitrabhānu . | 21 Sarvajit . | ... |
| 4385 | 1206 | 1341 | 690 | 458-59 | 1283-84 | 17 Subhānu . | 22 Sarvadhārin . | 4 Āshāḍha . |
| 4386 | 1207 | 1342 | 691 | 459-60 | *1284-85 | 18 Tārāya . | 23 Virōdhin . | ... |
| 4387 | 1208 | 1343 | 692 | 460-61 | 1285-86 | 19 Pārthiva . | 24 Vikṛita . | ... |
| 4388 | 1209 | 1344 | 693 | 461-62 | 1286-87 | 20 Vyāya . | 25 Khara . | 2 Vaiśākha . |
| 4389 | 1210 | 1345 | 694 | 462-63 | 1287-88 | 21 Sarvajit . | 26 Nandana . | ... |
| 4390 | 1211 | 1346 | 695 | 463-64 | *1288-89 | 22 Sarvadhārin . | 27 Vijaya . | 6 Bhādrapada . |
| 4391 | 1212 | 1347 | 696 | 464-65 | 1289-90 | 23 Virōdhin . | 28 Jaya . | ... |
| 4392 | 1213 | 1348 | 697 | 465-66 | 1290-91 | 24 Vikṛita . | 29 Manmatha . | ... |
| 4393 | 1214 | 1349 | 698 | 466-67 | 1291-92 | 25 Khara . | 30 Durmukha . | 4 Āshāḍha . |
| 4394 | 1215 | 1350 | 699 | 467-68 | *1292-93 | 26 Nandana . | 31 Hēmalamba . | ... |
| 4395 | 1216 | 1351 | 700 | 468-69 | 1293-94 | 27 Vijaya . | 32 Vilamba . | ... |
| 4396 | 1217 | 1352 | 701 | 469-70 | 1294-95 | 28 Jaya . | 33 Vikārin . | 3 Jyēṣṭha . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Nati. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 25 Mar. (84) | 3 Tues. | 13 5 0 | 24 Mar. (83) | 2 Mon. | 9976-9014 | 292-2121 | 273-2234 | 4372 | |
| 25 Mar. (84) | 4 Wed. | 19 17 30 | 13 Mar. (72) | 6 Fri. | 9852-5848 | 139-4479 | 242-3096 | 4373 | |
| 25 Mar. (85) | 6 Fri. | 1 30 0 | 2 Mar. (62) | 4 Wed. | 66-9000 | 22-9743 | 214-3134 | 4374 | |
| 25 Mar. (84) | 0 Sat. | 7 42 30 | 21 Mar. (80) | 3 Tues. | 101-5396 | 958-9378 | 265-6232 | 4375 | |
| 25 Mar. (84) | 1 Sun. | 13 55 0 | 10 Mar. (69) | 0 Sat. | 9977-2230 | 806-1926 | 234-7993 | 4376 | |
| 25 Mar. (84) | 2 Mon. | 20 7 30 | 28 Feb. (59) | 5 Thur. | 191-5382 | 689-7191 | 206-7133 | 4377 | |
| 25 Mar. (85) | 4 Wed. | 2 20 0 | 18 Mar. (78) | 4 Wed. | 226-1778 | 624-7025 | 258-0230 | 4378 | |
| 25 Mar. (84) | 5 Thur. | 8 32 30 | 7 Mar. (66) | 1 Sun. | 101-8612 | 472-9373 | 227-1902 | 4379 | |
| 25 Mar. (84) | 6 Fri. | 14 45 0 | 25 Mar. (84) | 6 Fri. | 9797-8690 | 372-6293 | 275-7711 | 4380 | |
| 25 Mar. (84) | 0 Sat. | 20 57 30 | 15 Mar. (74) | 4 Wed. | 12-1842 | 256-1556 | 247-6750 | 4381 | |
| 25 Mar. (85) | 2 Mon. | 3 10 0 | 3 Mar. (63) | 1 Sun. | 9887-8676 | 103-3905 | 216-8611 | 4382 | |
| 25 Mar. (84) | 3 Tues. | 9 22 30 | 22 Mar. (81) | 0 Sat. | 9922-5072 | 39-3740 | 268-1709 | 4383 | |
| 25 Mar. (84) | 4 Wed. | 15 35 0 | 12 Mar. (71) | 5 Thur. | 136-8225 | 922-9004 | 240-6848 | 4384 | |
| 25 Mar. (84) | 5 Thur. | 21 47 30 | 1 Mar. (60) | 2 Mon. | 12-5059 | 770-1352 | 209-2610 | 4385 | |
| 25 Mar. (85) | 0 Sat. | 4 0 0 | 19 Mar. (79) | 1 Sun. | 47-1455 | 706-1187 | 260-5706 | 4386 | |
| 25 Mar. (84) | 1 Sun. | 10 12 30 | 8 Mar. (67) | 5 Thur. | 9922-8289 | 553-3536 | 229-7458 | 4387 | |
| 25 Mar. (84) | 2 Mon. | 16 25 0 | 25 Feb. (56) | 2 Mon. | 9708-5122 | 400-5883 | 198-9229 | 4388 | |
| 25 Mar. (84) | 3 Tues. | 22 37 30 | 16 Mar. (75) | 1 Sun. | 9833-1519 | 336-5718 | 250-1827 | 4389 | |
| 25 Mar. (85) | 5 Thur. | 4 50 0 | 5 Mar. (65) | 6 Fri. | 47-4671 | 220-0983 | 222-1466 | 4390 | |
| 25 Mar. (84) | 6 Fri. | 11 2 30 | 23 Mar. (82) | 4 Wed. | 9743-4749 | 119-7901 | 270-7185 | 4391 | |
| 25 Mar. (84) | 0 Sat. | 17 15 0 | 13 Mar. (72) | 2 Mon. | 9957-7901 | 3-3166 | 242-6325 | 4392 | |
| 25 Mar. (84) | 1 Sun. | 23 27 30 | 3 Mar. (62) | 0 Sat. | 172-1064 | 886-8430 | 214-5463 | 4393 | |
| 25 Mar. (85) | 3 Tues. | 5 40 0 | 21 Mar. (81) | 6 Fri. | 206-7450 | 822-8266 | 265-8561 | 4394 | |
| 25 Mar. (84) | 4 Wed. | 11 52 30 | 10 Mar. (69) | 3 Tues. | 82-4284 | 670-0613 | 256-0522 | 4395 | |
| 25 Mar. (84) | 5 Thur. | 18 5 0 | 27 Feb. (58) | 0 Sat. | 9958-1118 | 517-2962 | 204-7084 | 4396 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4397 | 1218 | 1353 | 702 | 470-71 | 1295-96 | 29 Manmatha . | 34 Śārvarin . | ... |
| 4398 | 1219 | 1354 | 703 | 471-72 | *1296-97 | 30 Durmukha . | 35 Plava . | 12 Phālguna . |
| 4399 | 1220 | 1355 | 704 | 472-73 | 1297-98 | 31 Hāmālamba . | 36 Śubhakṛit . | ... |
| 4400 | 1221 | 1356 | 705 | 473-74 | 1298-99 | 32 Vilamba . | 37 Śōbhana . | ... |
| 4401 | 1222 | 1357 | 706 | 474-75 | 1299-1300 | 33 Vikārin . | 38 Krōdhin . | 5 Śrāvaga . |
| 4402 | 1223 | 1358 | 707 | 475-76 | *1300-01 | 34 Śārvarin . | 39 Viśvāvasu . | ... |
| 4403 | 1224 | 1359 | 708 | 476-77 | 1301-02 | 35 Plava . | 40 Parābhava . | ... |
| 4404 | 1225 | 1360 | 709 | 477-78 | 1302-03 | 36 Śubhakṛit . | 41 Plavaṅga . | 4 Āshādha . |
| 4405 | 1226 | 1361 | 710 | 478-79 | 1303-04 | 37 Śōbhana . | 42 Kilaka . | ... |
| 4406 | 1227 | 1362 | 711 | 479-80 | *1304-05 | 38 Krōdhin . | 43 Saumya . | ... |
| 4407 | 1228 | 1363 | 712 | 480-81 | 1305-06 | 39 Viśvāvasu . | 44 Sādharaga . | 2 Vaiśākha . |
| 4408 | 1229 | 1364 | 713 | 481-82 | 1306-07 | 40 Parābhava . | 45 Virōdhakṛit . | ... |
| 4409 | 1230 | 1365 | 714 | 482-83 | 1307-08 | 41 Plavaṅga . | 46 Paridhāvin . | 6 Bhādrapada . |
| 4410 | 1231 | 1366 | 715 | 483-84 | *1308-09 | 42 Kilaka . | 47 Pramādin . | ... |
| 4411 | 1232 | 1367 | 716 | 484-85 | 1309-10 | 43 Saumya . | 48 Ānanda . | ... |
| 4412 | 1233 | 1368 | 717 | 485-86 | 1310-11 | 44 Sādharaga . | 49 Rākshasa . | 4 Āshādha . |
| 4413 | 1234 | 1369 | 718 | 486-87 | 1311-12 | 45 Virōdhakṛit . | 50 Anala . | ... |
| 4414 | 1235 | 1370 | 719 | 487-88 | *1312-13 | 46 Paridhāvin . | 51 Pingala . | ... |
| 4415 | 1236 | 1371 | 720 | 488-89 | 1313-14 | 47 Pramādin . | 52 Kātyukta . | 3 Jyēṣṭha . |
| 4416 | 1237 | 1372 | 721 | 489-90 | 1314-15 | 48 Ānanda . | 53 Siddhārthin . | ... |
| 4417 | 1238 | 1373 | 722 | 490-91 | 1315-16 | 49 Rākshasa . | 54 Raudra . | 12 Phālguna . |
| 4418 | 1239 | 1374 | 723 | 491-92 | *1316-17 | 50 Anala . | 55 Durmati . | ... |
| 4419 | 1240 | 1375 | 724 | 492-93 | 1317-18 | 51 Pingala . | 56 Dandabhi . | ... |
| 4420 | 1241 | 1376 | 725 | 493-94 | 1318-19 | 52 Kātyukta . | 57 Rudhirōdgārin . | 5 Śrāvaga . |
| 4421 | 1242 | 1377 | 726 | 494-95 | 1319-20 | 53 Siddhārthin . | 58 Raktāksha . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kab. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 26 Mar. (85) | 0 Sat. | 0 17 30 | 18 Mar. (77) | 6 Fri. | 9993-7514 | 453-2797 | 255-5181 | 4397 | |
| 25 Mar. (85) | 1 Sun. | 6 30 0 | 6 Mar. (66) | 3 Tues. | 9868-4348 | 300-5144 | 224-6943 | 4398 | |
| 25 Mar. (84) | 2 Mon. | 12 42 30 | 25 Mar. (84) | 2 Mon. | 9903-0744 | 236-4980 | 276-0039 | 4399 | |
| 25 Mar. (84) | 3 Tues. | 18 55 0 | 14 Mar. (73) | 6 Fri. | 9778-7578 | 83-7328 | 245-1801 | 4400 | |
| 26 Mar. (85) | 5 Thurs. | 1 7 30 | 4 Mar. (63) | 4 Wed. | 9993-0731 | 967-2592 | 217-0940 | 4401 | |
| 25 Mar. (85) | 6 Fri. | 7 20 0 | 22 Mar. (82) | 3 Tues. | 27-7127 | 903-2427 | 258-4038 | 4402 | |
| 25 Mar. (84) | 0 Sat. | 13 32 30 | 12 Mar. (71) | 1 Sun. | 242-0280 | 786-7691 | 240-3177 | 4403 | |
| 25 Mar. (84) | 1 Sun. | 19 45 0 | 1 Mar. (60) | 5 Thurs. | 117-7114 | 634-0339 | 209-4938 | 4404 | |
| 26 Mar. (85) | 3 Tues. | 1 57 30 | 20 Mar. (79) | 4 Wed. | 152-3510 | 569-9874 | 260-8035 | 4405 | |
| 25 Mar. (85) | 4 Wed. | 8 10 0 | 8 Mar. (68) | 1 Sun. | 28-0344 | 417-2222 | 229-9797 | 4406 | |
| 25 Mar. (84) | 5 Thurs. | 14 22 30 | 25 Feb. (56) | 5 Thurs. | 9903-7177 | 264-4570 | 199-1558 | 4407 | |
| 25 Mar. (84) | 6 Fri. | 20 35 0 | 16 Mar. (75) | 4 Wed. | 9938-3574 | 200-4405 | 250-4656 | 4408 | |
| 26 Mar. (85) | 1 Sun. | 2 47 30 | 5 Mar. (64) | 1 Sun. | 9814-0408 | 47-6754 | 219-0417 | 4409 | |
| 25 Mar. (85) | 2 Mon. | 9 0 0 | 23 Mar. (83) | 0 Sat. | 9848-0804 | 983-7588 | 270-9514 | 4410 | |
| 25 Mar. (84) | 3 Tues. | 15 12 30 | 13 Mar. (72) | 5 Thurs. | 62-9956 | 867-1853 | 242-8653 | 4411 | |
| 25 Mar. (84) | 4 Wed. | 21 25 0 | 3 Mar. (62) | 3 Tues. | 277-3109 | 750-7117 | 214-7792 | 4412 | |
| 26 Mar. (85) | 6 Fri. | 3 37 30 | 21 Mar. (80) | 1 Sun. | 9973-3187 | 650-4036 | 263-3512 | 4413 | |
| 25 Mar. (85) | 0 Sat. | 9 50 0 | 10 Mar. (70) | 6 Fri. | 187-6339 | 523-9309 | 235-2651 | 4414 | |
| 25 Mar. (84) | 1 Sun. | 16 2 30 | 27 Feb. (58) | 3 Tues. | 63-3172 | 381-1648 | 204-4413 | 4415 | |
| 25 Mar. (84) | 2 Mon. | 22 15 0 | 17 Mar. (76) | 1 Sun. | 9759-3250 | 280-8568 | 253-6132 | 4416 | |
| 26 Mar. (85) | 4 Wed. | 4 27 30 | 7 Mar. (66) | 6 Fri. | 9973-6403 | 164-3831 | 224-9271 | 4417 | |
| 25 Mar. (85) | 5 Thurs. | 10 40 0 | 25 Mar. (85) | 5 Thurs. | 8-2799 | 100-3667 | 276-2368 | 4418 | |
| 25 Mar. (84) | 6 Fri. | 16 52 30 | 14 Mar. (73) | 2 Mon. | 9883-9632 | 947-6015 | 245-4130 | 4419 | |
| 25 Mar. (84) | 0 Sat. | 23 5 0 | 4 Mar. (63) | 0 Sat. | 98-2785 | 831-1279 | 217-3269 | 4420 | |
| 26 Mar. (85) | 2 Mon. | 5 17 30 | 23 Mar. (82) | 6 Fri. | 132-9181 | 767-1114 | 263-6367 | 4421 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikramā. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4422 | 1243 | 1378 | 727 | 495-96 | *1320-21 | 54 Raudra . | 59 Krōdhana . | ... |
| 4423 | 1244 | 1379 | 728 | 496-97 | 1321-22 | 55 Durmati . | 60 Kshaya . | 4 Āshādha . |
| 4424 | 1245 | 1380 | 729 | 497-98 | 1322-23 | 56 Dundubhī . | 1 Prabhava . | ... |
| 4425 | 1246 | 1381 | 730 | 498-99 | 1323-24 | 57 Rudhirōdgārīn | 2 Vibhava . | ... |
| 4426 | 1247 | 1382 | 731 | 499-500 | *1324-25 | 58 Raktāksha . | 3 Śukla . | 2 Vaiśākha . |
| 4427 | 1248 | 1383 | 732 | 500-01 | 1325-26 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4428 | 1249 | 1384 | 733 | 501-02 | 1326-27 | 60 Kshaya . | 5 Prajāpati . | 6 Bhādrapada |
| 4429 | 1250 | 1385 | 734 | 502-03 | 1327-28 | 1 Prabhava . | 6 Aṅgīras . | ... |
| 4430 | 1251 | 1386 | 735 | 503-04 | *1328-29 | 2 Vibhava . | 7 Śrīmukha . | ... |
| 4431 | 1252 | 1387 | 736 | 504-05 | 1329-30 | 3 Śukla . | 8 Bhāva . | 4 Āshādha . |
| 4432 | 1253 | 1388 | 737 | 505-06 | 1330-31 | 4 Pramōda . | 9 Yuvan . | ... |
| 4433 | 1254 | 1389 | 738 | 506-07 | 1331-32 | 5 Prajāpati . | 10 Dhātṛi † | ... |
| 4434 | 1255 | 1390 | 739 | 507-08 | *1332-33 | 6 Aṅgīras . | 12 Bahudhānya . | 3 Jyēṣṭha . |
| 4435 | 1256 | 1391 | 740 | 508-09 | 1333-34 | 7 Śrīmukha . | 13 Pramāthin . | ... |
| 4436 | 1257 | 1392 | 741 | 509-10 | 1334-35 | 8 Bhāva . | 14 Vikrama . | { 7 Āsvina 10 Pausa (<i>ksh.</i>) 12 Phālguna } |
| 4437 | 1258 | 1393 | 742 | 510-11 | 1335-36 | 9 Yuvan . | 15 Vyāha . | ... |
| 4438 | 1259 | 1394 | 743 | 511-12 | *1336-37 | 10 Dhātṛi . | 16 Chitrabhānu . | ... |
| 4439 | 1260 | 1395 | 744 | 512-13 | 1337-38 | 11 Jēvara . | 17 Subhānu . | 5 Śrāvāṇa . |
| 4440 | 1261 | 1396 | 745 | 513-14 | 1338-39 | 12 Bahudhānya . | 18 Tārāṇa . | ... |
| 4441 | 1262 | 1397 | 746 | 514-15 | 1339-40 | 13 Pramāthin . | 19 Pārthiva . | ... |
| 4442 | 1263 | 1398 | 747 | 515-16 | *1340-41 | 14 Vikrama . | 20 Vyāya . | 4 Āshādha . |
| 4443 | 1264 | 1399 | 748 | 516-17 | 1341-42 | 15 Vyāha . | 21 Sarvajit . | ... |
| 4444 | 1265 | 1400 | 749 | 517-18 | 1342-43 | 16 Chitrabhānu . | 22 Sarvadhārīn . | ... |
| 4445 | 1266 | 1401 | 750 | 518-19 | 1343-44 | 17 Subhānu . | 23 Virōdhin . | 2 Vaiśākha . |
| 4446 | 1267 | 1402 | 751 | 519-20 | *1344-45 | 18 Tārāṇa . | 24 Vikṛita . | .. |

† 11 Jēvara was suppressed in the north.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUELA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mīsha-saṅkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 25 Mar. (85) | 3 Tues. | 11 30 0 | 11 Mar. (71) | 3 Tues. | 8-6015 | 614-3462 | 237-8628 | 4422 |
| 25 Mar. (84) | 4 Wed. | 17 42 30 | 28 Feb. (59) | 0 Sat. | 9884-2849 | 461-5811 | 206-9889 | 4423 |
| 25 Mar. (84) | 5 Thur. | 23 55 0 | 19 Mar. (78) | 6 Fri. | 9918-9245 | 397-5645 | 258-2986 | 4424 |
| 26 Mar. (85) | 0 Sat. | 6 7 30 | 8 Mar. (67) | 3 Tues. | 9794-6078 | 244-7993 | 227-4748 | 4425 |
| 25 Mar. (85) | 1 Sun. | 12 20 0 | 26 Feb. (57) | 1 Sun. | 8-9231 | 128-3258 | 199-3887 | 4426 |
| 25 Mar. (84) | 2 Mon. | 18 32 30 | 16 Mar. (75) | 0 Sat. | 43-5628 | 64-3092 | 250-6985 | 4427 |
| 26 Mar. (85) | 4 Wed. | 0 45 0 | 5 Mar. (64) | 4 Wed. | 9919-2462 | 911-5441 | 219-8746 | 4428 |
| 26 Mar. (85) | 5 Thur. | 6 57 30 | 24 Mar. (83) | 3 Tues. | 9953-8858 | 847-5276 | 271-1843 | 4429 |
| 25 Mar. (85) | 6 Fri. | 13 10 0 | 13 Mar. (73) | 1 Sun. | 168-3010 | 731-0530 | 243-0982 | 4430 |
| 25 Mar. (84) | 0 Sat. | 10 22 30 | 2 Mar. (61) | 5 Thur. | 43-8845 | 578-2878 | 212-2744 | 4431 |
| 26 Mar. (85) | 2 Mon. | 1 35 0 | 21 Mar. (80) | 4 Wed. | 78-5241 | 514-2714 | 263-5841 | 4432 |
| 26 Mar. (85) | 3 Tues. | 7 47 30 | 10 Mar. (69) | 1 Sun. | 9954-2074 | 361-5061 | 232-7602 | 4433 |
| 25 Mar. (85) | 4 Wed. | 14 0 0 | 27 Feb. (58) | 5 Thur. | 9829-8908 | 208-7409 | 202-1364 | 4434 |
| 25 Mar. (84) | 5 Thur. | 20 12 30 | 17 Mar. (76) | 4 Wed. | 9864-6305 | 144-7245 | 253-2461 | 4435 |
| 26 Mar. (85) | 0 Sat. | 2 25 0 | 7 Mar. (66) | 2 Mon. | 78-8437 | 28-2509 | 225-1600 | 4436 |
| 26 Mar. (85) | 1 Sun. | 8 37 30 | 26 Mar. (85) | 1 Sun. | 113-4853 | 964-2344 | 276-4697 | 4437 |
| 25 Mar. (85) | 2 Mon. | 14 50 0 | 14 Mar. (74) | 5 Thur. | 9989-1687 | 811-4702 | 245-6459 | 4438 |
| 25 Mar. (84) | 3 Tues. | 21 2 30 | 4 Mar. (63) | 3 Tues. | 203-4840 | 694-9067 | 217-5598 | 4439 |
| 26 Mar. (85) | 5 Thur. | 3 15 0 | 23 Mar. (82) | 2 Mon. | 238-1236 | 629-9801 | 268-8696 | 4440 |
| 26 Mar. (85) | 6 Fri. | 9 27 30 | 12 Mar. (71) | 6 Fri. | 113-8081 | 478-2149 | 238-0457 | 4441 |
| 25 Mar. (85) | 0 Sat. | 15 40 0 | 29 Feb. (60) | 3 Tues. | 9989-4904 | 325-4498 | 207-2219 | 4442 |
| 25 Mar. (84) | 1 Sun. | 21 52 30 | 19 Mar. (78) | 2 Mon. | 24-1200 | 261-4333 | 259-5315 | 4443 |
| 26 Mar. (85) | 3 Tues. | 4 5 0 | 8 Mar. (67) | 6 Fri. | 9899-8134 | 108-6080 | 227-7077 | 4444 |
| 26 Mar. (85) | 4 Wed. | 10 17 30 | 26 Feb. (57) | 4 Wed. | 114-1286 | 992-1945 | 199-6318 | 4445 |
| 25 Mar. (85) | 5 Thur. | 16 30 0 | 16 Mar. (76) | 3 Tues. | 145-7982 | 578-1786 | 259-9314 | 4446 |

TABLE

| CONCURRENT YEAR | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|-----------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kal. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4447 | 1268 | 1403 | 752 | 520-21 | 1345-46 | 19 Pārthiva . | 25 Khara . | 6 Bhādrapada |
| 4448 | 1269 | 1404 | 753 | 521-22 | 1346-47 | 20 Vyaya . | 26 Nandana . | ... |
| 4449 | 1270 | 1405 | 754 | 522-23 | 1347-48 | 21 Sarvajit . | 27 Vijaya . | ... |
| 4450 | 1271 | 1406 | 755 | 523-24 | *1348-49 | 22 Sarvadhārīn . | 28 Jaya . | 4 Āshādha . |
| 4451 | 1272 | 1407 | 756 | 524-25 | 1349-50 | 23 Virōdhin . | 29 Manmatha . | ... |
| 4452 | 1273 | 1408 | 757 | 525-26 | 1350-51 | 24 Vikṛita . | 30 Durmukha . | ... |
| 4453 | 1274 | 1409 | 758 | 526-27 | 1351-52 | 25 Khara . | 31 Hēmalamba . | 2 Vaiśākha . |
| 4454 | 1275 | 1410 | 759 | 527-28 | *1352-53 | 26 Nandana . | 32 Vilamba . | ... |
| 4455 | 1276 | 1411 | 760 | 528-29 | 1353-54 | 27 Vijaya . | 33 Vikārīn . | { 7 Āsrina 11 Māgha (<i>ksh.</i>) 12 Phālguna } |
| 4456 | 1277 | 1412 | 761 | 529-30 | 1354-55 | 28 Jaya . | 34 Śārvarin . | |
| 4457 | 1278 | 1413 | 762 | 530-31 | 1355-56 | 29 Manmatha . | 35 Plava . | |
| 4458 | 1279 | 1414 | 763 | 531-32 | *1356-57 | 30 Durmukha . | 36 Śubhakt . | 5 Śrāvṇa . |
| 4459 | 1280 | 1415 | 764 | 532-33 | 1357-58 | 31 Hēmalamba . | 37 Śōbhana . | ... |
| 4460 | 1281 | 1416 | 765 | 533-34 | 1358-59 | 32 Vilamba . | 38 Krōddhin . | ... |
| 4461 | 1282 | 1417 | 766 | 534-35 | 1359-60 | 33 Vikārīn . | 39 Viśvāvasu . | 3 Jyēṣṭha . |
| 4462 | 1283 | 1418 | 767 | 535-36 | *1360-61 | 34 Śārvarin . | 40 Paribhava . | ... |
| 4463 | 1284 | 1419 | 768 | 536-37 | 1361-62 | 35 Plava . | 41 Plavaṅga . | ... |
| 4464 | 1285 | 1420 | 769 | 537-38 | 1362-63 | 36 Śubhakt . | 42 Kilaka . | 2 Vaiśākha . |
| 4465 | 1286 | 1421 | 770 | 538-39 | 1363-64 | 37 Śōbhana . | 43 Saumya . | ... |
| 4466 | 1287 | 1422 | 771 | 539-40 | *1364-65 | 38 Krōddhin . | 44 Sādhārṇa . | 6 Bhādrapada |
| 4467 | 1288 | 1423 | 772 | 540-41 | 1365-66 | 39 Viśvāvasu . | 45 Virōdhakt . | ... |
| 4468 | 1289 | 1424 | 773 | 541-42 | 1366-67 | 40 Paribhava . | 46 Paridhāvin . | ... |
| 4469 | 1290 | 1425 | 774 | 542-43 | 1367-68 | 41 Plavaṅga . | 47 Pramādin . | 4 Āshādha . |
| 4470 | 1291 | 1426 | 775 | 543-44 | *1368-69 | 42 Kilaka . | 48 Ānanda . | ... |
| 4471 | 1292 | 1427 | 776 | 544-45 | 1369-70 | 43 Sauriya . | 49 Rākṣasa . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 25 Mar. (84) | 6 Fri. | 22 42 30 | 5 Mar. (64) | 0 Sat. | 24-4516 | 775-4128 | 220-1675 | 4447 | |
| 26 Mar. (85) | 1 Sun. | 4 55 0 | 24 Mar. (83) | 6 Fri. | 59-0912 | 711-3963 | 271-4172 | 4448 | |
| 26 Mar. (85) | 2 Mon. | 11 7 30 | 13 Mar. (72) | 3 Tues. | 9934-7747 | 558-6312 | 240-5933 | 4449 | |
| 25 Mar. (85) | 3 Tues. | 17 26 0 | 1 Mar. (61) | 0 Sat. | 9810-4580 | 405-8660 | 209-7695 | 4450 | |
| 25 Mar. (84) | 4 Wed. | 23 32 30 | 20 Mar. (79) | 6 Fri. | 9845-0976 | 341-8494 | 261-0792 | 4451 | |
| 26 Mar. (85) | 6 Fri. | 5 45 0 | 9 Mar. (68) | 3 Tues. | 9720-7810 | 189-0843 | 230-2554 | 4452 | |
| 26 Mar. (85) | 0 Sat. | 11 57 30 | 27 Feb. (58) | 1 Sun. | 9935-0962 | 72-6107 | 202-1693 | 4453 | |
| 25 Mar. (85) | 1 Sun. | 18 10 0 | 17 Mar. (77) | 0 Sat. | 9969-7359 | 8-5942 | 253-4796 | 4454 | |
| 26 Mar. (85) | 3 Tues. | 0 22 30 | 7 Mar. (66) | 5 Thur. | 184-0511 | 892-1206 | 225-3929 | 4455 | |
| 26 Mar. (85) | 4 Wed. | 6 35 0 | 26 Mar. (85) | 4 Wed. | 218-6907 | 828-1042 | 276-7026 | 4456 | |
| 26 Mar. (85) | 5 Thur. | 12 47 30 | 15 Mar. (74) | 1 Sun. | 94-3741 | 675-3359 | 245-8788 | 4457 | |
| 25 Mar. (85) | 6 Fri. | 19 0 0 | 3 Mar. (63) | 5 Thur. | 9970-0575 | 522-5737 | 215-4549 | 4458 | |
| 26 Mar. (85) | 1 Sun. | 1 12 30 | 22 Mar. (81) | 4 Wed. | 4-6971 | 458-5573 | 266-3647 | 4459 | |
| 26 Mar. (85) | 2 Mon. | 7 25 0 | 11 Mar. (70) | 1 Sun. | 9880-3806 | 305-7921 | 235-5408 | 4460 | |
| 26 Mar. (85) | 3 Tues. | 13 37 30 | 28 Feb. (59) | 5 Thur. | 9756-0639 | 153-0269 | 204-7170 | 4461 | |
| 25 Mar. (85) | 4 Wed. | 19 50 0 | 18 Mar. (78) | 4 Wed. | 9790-7035 | 89-0104 | 256-0266 | 4462 | |
| 26 Mar. (85) | 6 Fri. | 2 2 30 | 8 Mar. (67) | 2 Mon. | 5-0188 | 972-5368 | 227-9406 | 4463 | |
| 26 Mar. (85) | 0 Sat. | 8 15 0 | 26 Feb. (57) | 0 Sat. | 219-3338 | 856-0632 | 199-8545 | 4464 | |
| 26 Mar. (85) | 1 Sun. | 14 27 30 | 17 Mar. (76) | 6 Fri. | 253-9737 | 792-0468 | 251-1642 | 4465 | |
| 25 Mar. (85) | 2 Mon. | 20 40 0 | 5 Mar. (65) | 3 Tues. | 129-6571 | 639-2816 | 220-3404 | 4466 | |
| 26 Mar. (85) | 4 Wed. | 2 52 30 | 24 Mar. (83) | 2 Mon. | 164-2967 | 575-2651 | 271-9501 | 4467 | |
| 26 Mar. (85) | 5 Thur. | 9 5 0 | 13 Mar. (72) | 6 Fri. | 39-9801 | 422-4999 | 241-1180 | 4468 | |
| 26 Mar. (85) | 6 Fri. | 15 17 30 | 2 Mar. (61) | 3 Tues. | 9915-0635 | 269-7347 | 210-0024 | 4469 | |
| 25 Mar. (85) | 0 Sat. | 21 30 0 | 20 Mar. (80) | 2 Mon. | 9950-3031 | 205-7182 | 161-3121 | 4470 | |
| 26 Mar. (85) | 2 Mon. | 3 42 30 | 9 Mar. (68) | 6 Fri. | 9925-9865 | 52-9530 | 130-4583 | 4471 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4472 | 1293 | 1428 | 777 | 545-46 | 1370-71 | 44 Sādhārana . | 50 Anala . | 3 Jyēshṭha . |
| 4473 | 1294 | 1429 | 778 | 546-47 | 1371-72 | 45 Virōdhakṛit . | 51 Piṅgala . | ... |
| 4474 | 1295 | 1430 | 779 | 547-48 | *1372-73 | 46 Paridhāvin . | 52 Kālayukta . | 6 Bhādrapada |
| 4475 | 1296 | 1431 | 780 | 548-49 | 1373-74 | 47 Pramādin . | 53 Siddhārthin . | ... |
| 4476 | 1297 | 1432 | 781 | 549-50 | 1374-75 | 48 Ānanda . | 54 Raudra . | ... |
| 4477 | 1298 | 1433 | 782 | 550-51 | 1375-76 | 49 Rākshasa . | 55 Durmati . | 5 Śrāvapa . |
| 4478 | 1299 | 1434 | 783 | 551-52 | *1376-77 | 50 Anala . | 56 Dundubhi . | ... |
| 4479 | 1300 | 1435 | 784 | 552-53 | 1377-78 | 51 Piṅgala . | 57 Rudhirōdgārin . | ... |
| 4480 | 1301 | 1436 | 785 | 553-54 | 1378-79 | 52 Kālayukta . | 58 Raktāksha . | 3 Jyēshṭha . |
| 4481 | 1302 | 1437 | 786 | 554-55 | 1379-80 | 53 Siddhārthin . | 59 Krōdhana . | ... |
| 4482 | 1303 | 1438 | 787 | 555-56 | *1380-81 | 54 Raudra . | 60 Kshaya . | ... |
| 4483 | 1304 | 1439 | 788 | 556-57 | 1381-82 | 55 Durmati . | 1 Prabhava . | 2 Vaiśākha . |
| 4484 | 1305 | 1440 | 789 | 557-58 | 1382-83 | 56 Dundubhi . | 2 Vibhava . | ... |
| 4485 | 1306 | 1441 | 790 | 558-59 | 1383-84 | 57 Rudhirōdgārin . | 3 Śukla . | 6 Bhādrapada |
| 4486 | 1307 | 1442 | 791 | 559-60 | *1384-85 | 58 Raktāksha . | 4 Pramōda . | ... |
| 4487 | 1308 | 1443 | 792 | 560-61 | 1385-86 | 59 Krōdhana . | 5 Prajāpati . | ... |
| 4488 | 1309 | 1444 | 793 | 561-62 | 1386-87 | 60 Kshaya . | 6 Aṅgiras . | 4 Āshādha . |
| 4489 | 1310 | 1445 | 794 | 562-63 | 1387-88 | 1 Prabhava . | 7 Śrīmukha . | ... |
| 4490 | 1311 | 1446 | 795 | 563-64 | *1388-89 | 2 Vibhava . | 8 Bhāva . | ... |
| 4491 | 1312 | 1447 | 796 | 564-65 | 1389-90 | 3 Śukla . | 9 Yuvan . | 3 Jyēshṭha . |
| 4492 | 1313 | 1448 | 797 | 565-66 | 1390-91 | 4 Pramōda . | 10 Dhātṛi . | ... |
| 4493 | 1314 | 1449 | 798 | 566-67 | 1391-92 | 5 Prajāpati . | 11 Isvara . | 7 Aśvin . |
| 4494 | 1315 | 1450 | 799 | 567-68 | *1392-93 | 6 Aṅgiras . | 12 Bahudhanya . | ... |
| 4495 | 1316 | 1451 | 800 | 568-69 | 1393-94 | 7 Śrīmukha . | 13 Pramāthin . | ... |
| 4496 | 1317 | 1452 | 801 | 569-70 | 1394-95 | 8 Bhāva . | 14 Vikrama . | 5 Śrāvapa . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 26 Mar. (85) | 3 Tues. | 9 55 0 | 27 Feb. (58) | 4 Wed. | 40-3017 | 936-4794 | 202-4022 | 4472 |
| 26 Mar. (85) | 4 Wed. | 16 7 30 | 18 Mar. (77) | 3 Tues. | 74-9414 | 872-4630 | 253-7119 | 4473 |
| 25 Mar. (85) | 5 Thur. | 22 20 0 | 7 Mar. (67) | 1 Sun. | 289-2566 | 755-9894 | 225-6258 | 4474 |
| 26 Mar. (85) | 0 Sat. | 4 32 30 | 25 Mar. (84) | 6 Fri. | 9985-2644 | 655-6813 | 274-1977 | 4475 |
| 26 Mar. (85) | 1 Sun. | 10 45 0 | 15 Mar. (74) | 4 Wed. | 199-5796 | 539-2077 | 246-1117 | 4476 |
| 26 Mar. (85) | 2 Mon. | 16 57 30 | 4 Mar. (63) | 1 Sun. | 75-2629 | 386-4425 | 215-2878 | 4477 |
| 25 Mar. (85) | 3 Tues. | 23 10 0 | 21 Mar. (81) | 6 Fri. | 9771-2707 | 286-1344 | 263-8598 | 4478 |
| 26 Mar. (85) | 5 Thur. | 5 22 30 | 11 Mar. (70) | 4 Wed. | 9985-5859 | 169-6608 | 235-7737 | 4479 |
| 26 Mar. (85) | 6 Fri. | 11 35 0 | 28 Feb. (59) | 1 Sun. | 9861-2694 | 16-8957 | 204-9499 | 4480 |
| 26 Mar. (85) | 0 Sat. | 17 47 30 | 19 Mar. (78) | 0 Sat. | 9895-9080 | 952-8791 | 266-2595 | 4481 |
| 26 Mar. (86) | 2 Mon. | 0 0 0 | 8 Mar. (68) | 5 Thur. | 110-2242 | 836-4655 | 228-1735 | 4482 |
| 26 Mar. (85) | 3 Tues. | 6 12 30 | 25 Feb. (50) | 2 Mon. | 9985-9076 | 683-6404 | 197-6414 | 4483 |
| 26 Mar. (85) | 4 Wed. | 12 25 0 | 16 Mar. (75) | 1 Sun. | 20-5472 | 619-6238 | 248-6594 | 4484 |
| 26 Mar. (85) | 5 Thur. | 18 37 30 | 5 Mar. (64) | 5 Thur. | 9896-2306 | 466-8587 | 217-8355 | 4485 |
| 26 Mar. (86) | 0 Sat. | 0 50 0 | 23 Mar. (83) | 4 Wed. | 9930-8702 | 402-8422 | 269-1452 | 4486 |
| 26 Mar. (85) | 1 Sun. | 7 2 30 | 12 Mar. (71) | 1 Sun. | 9806-5536 | 250-0770 | 238-3213 | 4487 |
| 26 Mar. (85) | 2 Mon. | 13 15 0 | 2 Mar. (61) | 6 Fri. | 20-8689 | 133-6034 | 210-2353 | 4488 |
| 26 Mar. (85) | 3 Tues. | 19 27 30 | 21 Mar. (80) | 5 Thur. | 55-5085 | 69-5869 | 261-5430 | 4489 |
| 26 Mar. (86) | 5 Thur. | 1 40 0 | 9 Mar. (69) | 2 Mon. | 9931-1919 | 916-8218 | 230-7212 | 4490 |
| 26 Mar. (85) | 6 Fri. | 7 52 30 | 27 Feb. (58) | 0 Sat. | 145-5671 | 800-3481 | 202-6351 | 4491 |
| 26 Mar. (85) | 0 Sat. | 14 5 0 | 18 Mar. (77) | 6 Fri. | 180-1467 | 735-0461 | 251-2070 | 4492 |
| 26 Mar. (85) | 1 Sun. | 20 17 30 | 7 Mar. (66) | 3 Tues. | 55-8301 | 583-5665 | 223-1209 | 4493 |
| 26 Mar. (86) | 3 Tues. | 2 30 0 | 25 Mar. (85) | 2 Mon. | 90-4698 | 519-5501 | 274-4366 | 4494 |
| 26 Mar. (85) | 4 Wed. | 8 42 30 | 14 Mar. (73) | 6 Fri. | 9966-1531 | 366-7848 | 243-6068 | 4495 |
| 26 Mar. (85) | 5 Thur. | 14 56 0 | 3 Mar. (62) | 3 Tues. | 9841-8365 | 214-0196 | 212-7829 | 4496 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (<i>truo</i>). |
|------------------|-------|--------------------|---------------------------------|---------|-----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikrama. | Mīśāhī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4497 | 1318 | 1453 | 802 | 570-71 | 1395-96 | 9 Yavan . . | 15 Vṛisha . . | ... |
| 4498 | 1319 | 1454 | 803 | 571-72 | *1396-97 | 10 Dhātṛi . . | 16 Chitrabhānu . | ... |
| 4499 | 1320 | 1455 | 804 | 572-73 | 1397-98 | 11 Isvara . . | 17 Subhānu . . | 3 Jyēṣṭha . . |
| 4500 | 1321 | 1456 | 805 | 573-74 | 1398-99 | 12 Bahudhānya . | 18 Tāraṇa . . | ... |
| 4501 | 1322 | 1457 | 806 | 574-75 | 1399-1400 | 13 Pramāthin . . | 19 Pārthiva . . | { 8 Kārttika } { 10 Pausa (<i>ksh.</i>) } |
| 4502 | 1323 | 1458 | 807 | 575-76 | *1400-01 | 14 Vikrama . . | 20 Vyaya . . | 1 Chaitra . . |
| 4503 | 1324 | 1459 | 808 | 576-77 | 1401-02 | 15 Vṛisha . . | 21 Sarvajit . . | ... |
| 4504 | 1325 | 1460 | 809 | 577-78 | 1402-03 | 16 Chitrabhānu . | 22 Sarvadhārin . | 6 Bhādrapada |
| 4505 | 1326 | 1461 | 810 | 578-79 | 1403-04 | 17 Subhānu . . | 23 Virōdhin . . | ... |
| 4506 | 1327 | 1462 | 811 | 579-80 | *1404-05 | 18 Tāraṇa . . | 24 Vikṛita . . | ... |
| 4507 | 1328 | 1463 | 812 | 580-81 | 1405-06 | 19 Pārthiva . . | 25 Khara . . | 4 Āshāḍha . . |
| 4508 | 1329 | 1464 | 813 | 581-82 | 1406-07 | 20 Vyaya . . | 26 Nandana . . | ... |
| 4509 | 1330 | 1465 | 814 | 582-83 | 1407-08 | 21 Sarvajit . . | 27 Vijaya . . | ... |
| 4510 | 1331 | 1466 | 815 | 583-84 | *1408-09 | 22 Sarvadhārin . | 28 Jaya . . | 3 Jyēṣṭha . . |
| 4511 | 1332 | 1467 | 816 | 584-85 | 1409-10 | 23 Virōdhin . . | 29 Manmatha . . | ... |
| 4512 | 1333 | 1468 | 817 | 585-86 | 1410-11 | 24 Vikṛita . . | 30 Durmukha . . | 7 Āsrina . . |
| 4513 | 1334 | 1469 | 818 | 586-87 | 1411-12 | 25 Khara . . | 31 Hēmalamba . . | ... |
| 4514 | 1335 | 1470 | 819 | 587-88 | *1412-13 | 26 Nandana . . | 32 Vilamba . . | ... |
| 4515 | 1336 | 1471 | 820 | 588-89 | 1413-14 | 27 Vijaya . . | 33 Vikārin . . | 4 Āshāḍha . . |
| 4516 | 1337 | 1472 | 821 | 589-90 | 1414-15 | 28 Jaya . . | 34 Śarvarin . . | ... |
| 4517 | 1338 | 1473 | 822 | 590-91 | 1415-16 | 29 Manmatha . . | 35 Plava . . | ... |
| 4518 | 1339 | 1474 | 823 | 591-92 | *1416-17 | 30 Durmukha . . | 36 Subhakarit . . | 3 Jyēṣṭha . . |
| 4519 | 1340 | 1475 | 824 | 592-93 | 1417-18 | 31 Hēmalamba . . | 38 Kṛōdhin . . | ... |
| 4520 | 1341 | 1476 | 825 | 593-94 | 1418-19 | 32 Vilamba . . | 39 Virōdhan . . | { 8 Kārttika } { 11 Māgha (<i>ksh.</i>) } |
| 4521 | 1342 | 1477 | 826 | 594-95 | 1419-20 | 33 Vikārin . . | 40 Parābhava . . | { 12 Phālguna } ... |

† 37 Śabbana was suppressed in the north.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 26 Mar. (85) | 6 Fri. | 21 7 30 | 22 Mar. (81) | 2 Mon. | 9876-4762 | 150-0032 | 264-0027 | 4497 |
| 26 Mar. (86) | 1 Sun. | 3 20 0 | 11 Mar. (71) | 0 Sat. | 90-7914 | 33-5295 | 236-0006 | 4498 |
| 26 Mar. (85) | 2 Mon. | 9 32 30 | 28 Feb. (59) | 4 Wed. | 9966-4748 | 880-7644 | 205-1827 | 4499 |
| 26 Mar. (85) | 3 Tues. | 15 45 0 | 19 Mar. (78) | 3 Tues. | 1-1144 | 816-7479 | 256-4924 | 4500 |
| 26 Mar. (85) | 4 Wed. | 21 57 30 | 9 Mar. (68) | 1 Sun. | 215-4296 | 700-2743 | 228-4064 | 4501 |
| 26 Mar. (86) | 6 Fri. | 4 10 0 | 26 Feb. (57) | 5 Thur. | 91-1130 | 547-5092 | 197-5825 | 4502 |
| 26 Mar. (85) | 0 Sat. | 10 22 30 | 16 Mar. (75) | 4 Wed. | 125-7526 | 483-4926 | 248-8923 | 4503 |
| 26 Mar. (85) | 1 Sun. | 16 35 0 | 5 Mar. (64) | 1 Sun. | 1-4360 | 330-7275 | 218-0683 | 4504 |
| 26 Mar. (85) | 2 Mon. | 22 47 30 | 24 Mar. (83) | 0 Sat. | 36-0756 | 266-7110 | 269-3781 | 4505 |
| 26 Mar. (86) | 4 Wed. | 5 0 0 | 12 Mar. (72) | 4 Wed. | 9911-7590 | 113-9457 | 238-5542 | 4506 |
| 26 Mar. (85) | 5 Thur. | 11 12 30 | 2 Mar. (61) | 2 Mon. | 126-0743 | 997-4722 | 210-4682 | 4507 |
| 26 Mar. (85) | 6 Fri. | 17 25 0 | 21 Mar. (80) | 1 Sun. | 160-7139 | 933-4557 | 261-7779 | 4508 |
| 26 Mar. (85) | 0 Sat. | 23 37 30 | 10 Mar. (69) | 5 Thur. | 36-3973 | 780-6906 | 230-9541 | 4509 |
| 26 Mar. (86) | 2 Mon. | 5 50 0 | 28 Feb. (59) | 3 Tues. | 250-7125 | 664-2169 | 202-8680 | 4510 |
| 26 Mar. (85) | 3 Tues. | 12 2 30 | 17 Mar. (76) | 1 Sun. | 9946-7203 | 563-9089 | 251-4308 | 4511 |
| 26 Mar. (85) | 4 Wed. | 18 15 0 | 6 Mar. (65) | 5 Thur. | 9822-4037 | 411-1437 | 220-6160 | 4512 |
| 27 Mar. (86) | 6 Fri. | 0 27 30 | 25 Mar. (84) | 4 Wed. | 9857-0433 | 347-1271 | 271-9257 | 4513 |
| 26 Mar. (86) | 0 Sat. | 6 40 0 | 13 Mar. (73) | 1 Sun. | 9732-7267 | 194-3620 | 241-1019 | 4514 |
| 26 Mar. (85) | 1 Sun. | 12 52 30 | 3 Mar. (62) | 6 Fri. | 9947-0419 | 77-8884 | 215-9161 | 4515 |
| 26 Mar. (85) | 2 Mon. | 19 5 0 | 22 Mar. (81) | 5 Thur. | 9981-6815 | 13-8720 | 264-3256 | 4516 |
| 27 Mar. (86) | 4 Wed. | 1 17 30 | 12 Mar. (71) | 3 Tues. | 195-9968 | 897-3983 | 236-2394 | 4517 |
| 26 Mar. (86) | 5 Thur. | 7 30 0 | 29 Feb. (60) | 0 Sat. | 71-6802 | 744-6323 | 205-4156 | 4518 |
| 26 Mar. (85) | 6 Fri. | 13 42 30 | 19 Mar. (78) | 6 Fri. | 106-3197 | 686-6167 | 250-7253 | 4519 |
| 26 Mar. (85) | 0 Sat. | 19 55 0 | 8 Mar. (67) | 3 Tues. | 9982-0031 | 527-8514 | 225-9015 | 4520 |
| 27 Mar. (86) | 2 Mon. | 2 7 30 | 27 Mar. (86) | 2 Mon. | 16-6427 | 363-8550 | 277-2112 | 4521 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|----------------------|----------------------|--|
| Kali. | Saka. | Chaltradi Vikrama. | Meshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4522 | 1343 | 1478 | 827 | 595-96 | *1420-21 | 34 Śarvarin . | 41 <i>Plavaṅga</i> . | ... |
| 4523 | 1344 | 1479 | 828 | 596-97 | 1421-22 | 35 <i>Plava</i> . | 42 <i>Kilaka</i> . | 5 Śrāvapa . |
| 4524 | 1345 | 1480 | 829 | 597-98 | 1422-23 | 36 Śubhakṛit . | 43 <i>Saunhya</i> . | ... |
| 4525 | 1346 | 1481 | 830 | 598-99 | 1423-24 | 37 Sôbhana . | 44 Sâdhârapa . | ... |
| 4526 | 1347 | 1482 | 831 | 599-600 | *1424-25 | 38 Krôdhin . | 45 Virôdhakṛit . | 4 Āshâdha . |
| 4527 | 1348 | 1483 | 832 | 600-01 | 1425-26 | 39 Viâravasa . | 46 Paridhâvin . | ... |
| 4528 | 1349 | 1484 | 833 | 601-02 | 1426-27 | 40 Parâbhava . | 47 Pramâdin . | ... |
| 4529 | 1350 | 1485 | 834 | 602-03 | 1427-28 | 41 <i>Plavaṅga</i> . | 48 Ānanda . | 2 Vaiâkha . |
| 4530 | 1351 | 1486 | 835 | 603-04 | *1428-29 | 42 <i>Kilaka</i> . | 49 Râkshasa . | ... |
| 4531 | 1352 | 1487 | 836 | 604-05 | 1429-30 | 43 <i>Saunhya</i> . | 50 <i>Anala</i> . | 6 Bhâdrapada |
| 4532 | 1353 | 1488 | 837 | 605-06 | 1430-31 | 44 Sâdhârapa . | 51 Pîṅgala . | ... |
| 4533 | 1354 | 1489 | 838 | 606-07 | 1431-32 | 45 Virôdhakṛit . | 52 Kâlyukta . | ... |
| 4534 | 1355 | 1490 | 839 | 607-08 | *1432-33 | 46 Paridhâvin . | 53 Siddhârthin . | 4 Āshâdha |
| 4535 | 1356 | 1491 | 840 | 608-09 | 1433-34 | 47 Pramâdin . | 54 Raudra . | ... |
| 4536 | 1357 | 1492 | 841 | 609-10 | 1434-35 | 48 Ānanda . | 55 <i>Durmati</i> . | ... |
| 4537 | 1358 | 1493 | 842 | 610-11 | 1435-36 | 49 Râkshasa . | 56 Dundubhi . | 3 Jyêshtha . |
| 4538 | 1359 | 1494 | 843 | 611-12 | *1436-37 | 50 <i>Anala</i> . | 57 Rudhirôdgârin | ... |
| 4539 | 1360 | 1495 | 844 | 612-13 | 1437-38 | 51 Pîṅgala . | 58 Raktâksha . | 3 Kârttika . |
| 4540 | 1361 | 1496 | 845 | 613-14 | 1438-39 | 52 Kâlyukta . | 59 Krôdhana . | ... |
| 4541 | 1362 | 1497 | 846 | 614-15 | 1439-40 | 53 Siddhârthin . | 60 <i>Kshaya</i> . | ... |
| 4542 | 1363 | 1498 | 847 | 615-16 | *1440-41 | 54 Raudra . | 1 <i>Prabhava</i> . | 5 Śrāvapa . |
| 4543 | 1364 | 1499 | 848 | 616-17 | 1441-42 | 55 <i>Durmati</i> . | 2 <i>Vibhava</i> . | ... |
| 4544 | 1365 | 1500 | 849 | 617-18 | 1442-43 | 56 Dundubhi . | 3 <i>Śukla</i> . | ... |
| 4545 | 1366 | 1501 | 850 | 618-19 | 1443-44 | 57 Rudhirôdgârin | 4 <i>Pramôda</i> . | 4 Āshâdha . |
| 4546 | 1367 | 1502 | 851 | 619-20 | *1444-45 | 58 Raktâksha . | 5 <i>Prâjapati</i> . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kal. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 26 Mar. (86) | 3 Tues. | 8 20 0 | 15 Mar. (75) | 6 Fri. | 9892-3261 | 311-0698 | 246-3894 | 4522 |
| 26 Mar. (85) | 4 Wed. | 14 32 30 | 4 Mar. (63) | 3 Tues. | 9768-0095 | 157-3046 | 215-5634 | 4523 |
| 26 Mar. (85) | 5 Thur. | 20 45 0 | 23 Mar. (82) | 2 Mon. | 9802-6491 | 94-2881 | 266-8732 | 4524 |
| 27 Mar. (86) | 0 Sat. | 2 57 30 | 13 Mar. (72) | 0 Sat. | 16-9644 | 977-8145 | 238-7871 | 4525 |
| 26 Mar. (86) | 1 Sun. | 9 10 0 | 2 Mar. (62) | 5 Thur. | 231-2797 | 861-3410 | 210-7011 | 4526 |
| 26 Mar. (85) | 2 Mon. | 15 22 30 | 21 Mar. (80) | 4 Wed. | 265-9193 | 796-3241 | 262-0208 | 4527 |
| 26 Mar. (85) | 3 Tues. | 21 35 0 | 10 Mar. (69) | 1 Sun. | 141-6027 | 644-5593 | 231-1870 | 4528 |
| 27 Mar. (86) | 5 Thur. | 3 47 30 | 27 Feb. (58) | 5 Thur. | 17-2860 | 491-7941 | 200-3631 | 4529 |
| 26 Mar. (86) | 6 Fri. | 10 0 0 | 17 Mar. (77) | 4 Wed. | 51-9257 | 427-7776 | 251-8727 | 4530 |
| 26 Mar. (85) | 0 Sat. | 16 12 30 | 6 Mar. (65) | 1 Sun. | 9927-6091 | 275-0124 | 220-8489 | 4531 |
| 26 Mar. (85) | 1 Sun. | 22 25 0 | 25 Mar. (84) | 0 Sat. | 9962-2487 | 210-9959 | 272-1586 | 4532 |
| 27 Mar. (86) | 3 Tues. | 4 37 30 | 14 Mar. (73) | 4 Wed. | 9837-1321 | 58-2397 | 241-3348 | 4533 |
| 26 Mar. (86) | 4 Wed. | 10 50 0 | 3 Mar. (63) | 2 Mon. | 52-2473 | 941-7571 | 213-2487 | 4534 |
| 26 Mar. (85) | 5 Thur. | 17 2 30 | 22 Mar. (81) | 1 Sun. | 86-8870 | 877-7407 | 264-5585 | 4535 |
| 26 Mar. (85) | 6 Fri. | 23 15 0 | 12 Mar. (71) | 6 Fri. | 301-2022 | 761-2671 | 236-4723 | 4536 |
| 27 Mar. (86) | 1 Sun. | 5 27 30 | 1 Mar. (60) | 3 Tues. | 176-8856 | 608-5019 | 205-6485 | 4537 |
| 26 Mar. (86) | 2 Mon. | 11 40 0 | 18 Mar. (78) | 1 Sun. | 9872-8933 | 508-1938 | 254-2204 | 4538 |
| 26 Mar. (85) | 3 Tues. | 17 52 30 | 8 Mar. (67) | 6 Fri. | 87-2086 | 391-7202 | 226-1344 | 4539 |
| 27 Mar. (86) | 5 Thur. | 0 5 0 | 26 Mar. (85) | 4 Wed. | 9783-2164 | 291-4121 | 274-7063 | 4540 |
| 27 Mar. (86) | 6 Fri. | 6 17 30 | 16 Mar. (75) | 2 Mon. | 9997-5316 | 174-9385 | 246-6203 | 4541 |
| 26 Mar. (86) | 0 Sat. | 12 30 0 | 4 Mar. (64) | 6 Fri. | 9873-2150 | 22-1734 | 216-7964 | 4542 |
| 26 Mar. (85) | 1 Sun. | 18 42 30 | 23 Mar. (82) | 5 Thur. | 9907-8546 | 958-1569 | 267-1961 | 4543 |
| 27 Mar. (86) | 3 Tues. | 0 55 0 | 13 Mar. (72) | 3 Tues. | 122-4699 | 841-6932 | 239-0200 | 4544 |
| 27 Mar. (86) | 4 Wed. | 7 7 30 | 2 Mar. (61) | 0 Sat. | 9997-8533 | 688-9181 | 208-1902 | 4545 |
| 26 Mar. (86) | 5 Thur. | 13 20 0 | 20 Mar. (80) | 6 Fri. | 32-4928 | 624-9016 | 259-5059 | 4546 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4547 | 1368 | 1503 | 852 | 620-21 | 1445-46 | 59 Krōdhana . | 6 Angiras . | ... |
| 4548 | 1369 | 1504 | 853 | 621-22 | 1446-47 | 60 Kshaya . | 7 Śrīmukha . | 2 Vaiśākha . |
| 4549 | 1370 | 1505 | 854 | 622-23 | 1447-48 | 1 Prabhava . | 8 Bhāva . | ... |
| 4550 | 1371 | 1506 | 855 | 623-24 | *1448-49 | 2 Vibhava . | 9 Yuvan . | 6 Bhādrapada . |
| 4551 | 1372 | 1507 | 856 | 624-25 | 1449-50 | 3 Śukla . | 10 Dhātṛi . | ... |
| 4552 | 1373 | 1508 | 857 | 625-26 | 1450-51 | 4 Pramōda . | 11 Isvara . | ... |
| 4553 | 1374 | 1509 | 858 | 626-27 | 1451-52 | 5 Prajāpati . | 12 Bahudhānya . | 4 Āshāḍha . |
| 4554 | 1375 | 1510 | 859 | 627-28 | *1452-53 | 6 Angiras . | 13 Pramāthin . | ... |
| 4555 | 1376 | 1511 | 860 | 628-29 | 1453-54 | 7 Śrīmukha . | 14 Vikrama . | ... |
| 4556 | 1377 | 1512 | 861 | 629-30 | 1454-55 | 8 Bhāva . | 15 Vṛisha . | 3 Jyēṣṭha . |
| 4557 | 1378 | 1513 | 862 | 630-31 | 1455-56 | 9 Yuvan . | 16 Chitrabhānu . | ... |
| 4558 | 1379 | 1514 | 863 | 631-32 | *1456-57 | 10 Dhātṛi . | 17 Subhānu . | 8 Kārttika 10 Pousha (<i>kṣā.</i>) 12 Phālguna |
| 4559 | 1380 | 1515 | 864 | 632-33 | 1457-58 | 11 Isvara . | 18 Tārāṇa . | |
| 4560 | 1381 | 1516 | 865 | 633-34 | 1458-59 | 12 Bahudhānya . | 19 Pārthiva . | |
| 4561 | 1382 | 1517 | 866 | 634-35 | 1459-60 | 13 Pramāthin . | 20 Vyaya . | 5 Śrāvaṇa . |
| 4562 | 1383 | 1518 | 867 | 635-36 | *1460-61 | 14 Vikrama . | 21 Sarvajit . | ... |
| 4563 | 1 84 | 1519 | 868 | 636-37 | 1461-62 | 15 Vṛisha . | 22 Sarvadhārin . | ... |
| 4564 | 1385 | 1520 | 869 | 637-38 | 1462-63 | 16 Chitrabhānu . | 23 Virōdhin . | 4 Āshāḍha . |
| 4565 | 1386 | 1521 | 870 | 638-39 | 1463-64 | 17 Subhānu . | 24 Vikṛita . | ... |
| 4566 | 1387 | 1522 | 871 | 639-40 | *1464-65 | 18 Tārāṇa . | 25 Khara . | ... |
| 4567 | 1388 | 1523 | 872 | 640-41 | 1465-66 | 19 Pārthiva . | 26 Nandana . | 2 Vaiśākha . |
| 4568 | 1389 | 1524 | 873 | 641-42 | 1466-67 | 20 Vyaya . | 27 Vijaya . | ... |
| 4569 | 1390 | 1525 | 874 | 642-43 | 1467-68 | 21 Sarvajit . | 28 Jaya . | 6 Bhādrapada . |
| 4570 | 1391 | 1526 | 875 | 643-44 | *1468-69 | 22 Sarvadhārin . | 29 Manmatha . | ... |
| 4571 | 1392 | 1527 | 876 | 644-45 | 1469-70 | 23 Virōdhin . | 30 Durmukha . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 26 Mar. (85) | 6 Fri. | 19 32 30 | 9 Mar. (68) | 3 Tues. | 9908-1762 | 472-1363 | 228-6821 | 4547 |
| 27 Mar. (86) | 1 Sun. | 1 45 0 | 26 Feb. (57) | 0 Sat. | 9784-8596 | 319-3712 | 197-8532 | 4548 |
| 27 Mar. (86) | 2 Mon. | 7 57 30 | 17 Mar. (76) | 6 Fri. | 9818-4993 | 235-3547 | 249-1679 | 4549 |
| 26 Mar. (86) | 3 Tues. | 14 10 0 | 6 Mar. (66) | 4 Wed. | 32-8145 | 138-8812 | 22-0818 | 4550 |
| 26 Mar. (85) | 4 Wed. | 20 22 30 | 25 Mar. (84) | 3 Tues. | 67-4541 | 74-8646 | 272-3915 | 4551 |
| 27 Mar. (86) | 6 Fri. | 2 35 0 | 14 Mar. (73) | 0 Sat. | 9943-1375 | 922-0995 | 241-5677 | 4552 |
| 27 Mar. (86) | 0 Sat. | 8 47 30 | 4 Mar. (63) | 5 Thur. | 157-4527 | 805-6259 | 213-4816 | 4553 |
| 26 Mar. (86) | 1 Sun. | 15 0 0 | 22 Mar. (82) | 4 Wed. | 192-0924 | 741-6094 | 204-7914 | 4554 |
| 26 Mar. (85) | 2 Mon. | 21 12 30 | 11 Mar. (70) | 1 Sun. | 67-7757 | 588-8442 | 233-9674 | 4555 |
| 27 Mar. (86) | 4 Wed. | 3 25 0 | 28 Feb. (59) | 5 Thur. | 9943-4591 | 436-0790 | 203-1436 | 4556 |
| 27 Mar. (86) | 5 Thur. | 9 37 30 | 19 Mar. (78) | 4 Wed. | 9978-0987 | 372-0625 | 254-4533 | 4557 |
| 26 Mar. (86) | 6 Fri. | 15 50 0 | 7 Mar. (77) | 1 Sun. | 9853-7821 | 219-2973 | 223-6205 | 4558 |
| 26 Mar. (85) | 0 Sat. | 22 2 30 | 25 Mar. (85) | 0 Sat. | 9888-4218 | 155-2809 | 274-9392 | 4559 |
| 27 Mar. (86) | 2 Mon. | 4 17 0 | 16 Mar. (75) | 5 Thur. | 102-7370 | 38-8073 | 246-8532 | 4560 |
| 27 Mar. (86) | 3 Tues. | 10 27 30 | 5 Mar. (64) | 2 Mon. | 9978-4204 | 885-0421 | 216-0293 | 4561 |
| 26 Mar. (86) | 4 Wed. | 16 40 0 | 23 Mar. (83) | 1 Sun. | 13-0600 | 822-0256 | 267-3390 | 4562 |
| 26 Mar. (85) | 5 Thur. | 22 52 30 | 13 Mar. (72) | 6 Fri. | 227-3753 | 705-5520 | 239-2529 | 4563 |
| 27 Mar. (86) | 0 Sat. | 5 5 0 | 2 Mar. (61) | 3 Tues. | 103-0587 | 552-7868 | 208-4291 | 4564 |
| 27 Mar. (86) | 1 Sun. | 11 17 30 | 21 Mar. (80) | 2 Mon. | 137-6983 | 488-7703 | 250-7388 | 4565 |
| 26 Mar. (86) | 2 Mon. | 17 30 0 | 9 Mar. (69) | 6 Fri. | 13-3817 | 336-0051 | 228-9150 | 4566 |
| 26 Mar. (85) | 3 Tues. | 23 42 30 | 26 Feb. (57) | 3 Tues. | 9889-0651 | 183-2400 | 198-6911 | 4567 |
| 27 Mar. (86) | 5 Thur. | 5 55 0 | 17 Mar. (76) | 2 Mon. | 9923-7047 | 119-2214 | 249-4008 | 4568 |
| 27 Mar. (86) | 6 Fri. | 12 7 30 | 7 Mar. (66) | 0 Sat. | 138-0199 | 2-7409 | 221-3147 | 4569 |
| 26 Mar. (86) | 0 Sat. | 18 20 0 | 25 Mar. (85) | 6 Fri. | 172-6596 | 938-7334 | 273-6244 | 4570 |
| 27 Mar. (86) | 2 Mon. | 0 32 30 | 14 Mar. (73) | 3 Tues. | 48-3430 | 785-9632 | 241-8006 | 4571 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikramā. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOYIAN SĀMVATSAHA. | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true) |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4572 | 1393 | 1528 | 877 | 645-46 | 1470-71 | 24 Vikṛita . | 31 Hēmalamba . | 4 Āshāḍha . |
| 4573 | 1394 | 1529 | 878 | 646-47 | 1471-72 | 25 Khara . | 32 Vilamba . | ... |
| 4574 | 1395 | 1530 | 879 | 647-48 | *1472-73 | 26 Nandana . | 33 Vikārin . | ... |
| 4575 | 1396 | 1531 | 880 | 648-49 | 1473-74 | 27 Vijaya . | 34 Śārvarin . | 3 Jyēṣṭha . |
| 4576 | 1397 | 1532 | 881 | 649-50 | 1474-75 | 28 Jaya . | 35 Plava . | ... |
| 4577 | 1398 | 1533 | 882 | 650-51 | 1475-76 | 29 Maṃmatha . | 36 Subhakarit . | { 7 Āsvina 10 Pausa (<i>ksh.</i>) 12 Phālguna } |
| 4578 | 1399 | 1534 | 883 | 651-52 | *1476-77 | 30 Darmukha . | 37 Śōbhana . | |
| 4579 | 1400 | 1535 | 884 | 652-53 | 1477-78 | 31 Hēmalamba . | 38 Krōdhin . | |
| 4580 | 1401 | 1536 | 885 | 653-54 | 1478-79 | 32 Vilamba . | 39 Viśvāvasu . | 5 Śrāvapa . |
| 4581 | 1402 | 1537 | 886 | 654-55 | 1479-80 | 33 Vikārin . | 40 Parābhava . | ... |
| 4582 | 1403 | 1538 | 887 | 655-56 | *1480-81 | 34 Śārvarin . | 41 Plavaṅga . | ... |
| 4583 | 1404 | 1539 | 888 | 656-57 | 1481-82 | 35 Plava . | 42 Kilaka . | 4 Āshāḍha . |
| 4584 | 1405 | 1540 | 889 | 657-58 | 1482-83 | 36 Subhakarit . | 43 Saumya . | ... |
| 4585 | 1406 | 1541 | 890 | 658-59 | 1483-84 | 37 Śōbhana . | 44 Sādhāraṇa . | ... |
| 4586 | 1407 | 1542 | 891 | 659-60 | *1484-85 | 38 Krōdhin . | 45 Virōdhakarit . | 1 Chaitra . |
| 4587 | 1408 | 1543 | 892 | 660-61 | 1485-86 | 39 Viśvāvasu . | 46 Paridhāvin . | ... |
| 4588 | 1409 | 1544 | 893 | 661-62 | 1486-87 | 40 Parābhava . | 47 Pramādin . | 6 Bhādrapada |
| 4589 | 1410 | 1545 | 894 | 662-63 | 1487-88 | 41 Plavaṅga . | 48 Ānanda . | ... |
| 4590 | 1411 | 1546 | 895 | 663-64 | *1488-89 | 42 Kilaka . | 49 Rākshasa . | ... |
| 4591 | 1412 | 1547 | 896 | 664-65 | 1489-90 | 43 Saumya . | 50 Anala . | 4 Āshāḍha . |
| 4592 | 1413 | 1548 | 897 | 665-66 | 1490-91 | 44 Sādhāraṇa . | 51 Piṅgala . | ... |
| 4593 | 1414 | 1549 | 898 | 666-67 | 1491-92 | 45 Virōdhakarit . | 52 Kālayukta . | ... |
| 4594 | 1415 | 1550 | 899 | 667-68 | *1492-93 | 46 Paridhāvin . | 53 Siddhārthin . | 2 Vaiśākha . |
| 4595 | 1416 | 1551 | 900 | 668-69 | 1493-94 | 47 Pramādin . | 54 Raudra . | ... |
| 96 | 1417 | 1552 | 901 | 669-70 | 1494-95 | 48 Ānanda . | 55 Jyestha . | 6 Bhādrapada |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | i |
| | | H M. S. | | | | | | |
| 27 Mar. (86) | 3 Tues. | 6 45 0 | 4 Mar. (63) | 1 Sun. | 202-6582 | 669-4916 | 213-7145 | 4572 |
| 27 Mar. (86) | 4 Wed. | 12 57 30 | 22 Mar. (81) | 6 Fri. | 9958-6660 | 569-1865 | 262-2865 | 4573 |
| 26 Mar. (86) | 5 Thur. | 19 10 0 | 19 Mar. (70) | 3 Tues. | 9838-3494 | 416-4214 | 231-4626 | 4574 |
| 27 Mar. (86) | 0 Sat. | 1 22 30 | 28 Feb. (59) | 1 Sun. | 48-6646 | 299-9477 | 203-3765 | 4575 |
| 27 Mar. (86) | 1 Sun. | 7 35 0 | 18 Mar. (77) | 6 Fri. | 9744-6724 | 199-6307 | 251-9484 | 4576 |
| 27 Mar. (86) | 2 Mon. | 13 47 30 | 8 Mar. (67) | 4 Wed. | 9958-9875 | 83-1661 | 223-8624 | 4577 |
| 26 Mar. (86) | 3 Tues. | 20 0 0 | 26 Mar. (86) | 3 Tues. | 9993-6272 | 19-1496 | 275-1721 | 4578 |
| 27 Mar. (86) | 5 Thur. | 2 12 30 | 16 Mar. (75) | 1 Sun. | 207-9424 | 902-6760 | 247-0861 | 4579 |
| 27 Mar. (86) | 6 Fri. | 8 25 0 | 5 Mar. (64) | 5 Thur. | 83-6259 | 749-9109 | 216-2622 | 4580 |
| 27 Mar. (86) | 0 Sat. | 14 37 30 | 24 Mar. (83) | 4 Wed. | 118-2654 | 685-8943 | 267-5720 | 4581 |
| 26 Mar. (86) | 1 Sun. | 20 50 0 | 12 Mar. (72) | 1 Sun. | 9993-9488 | 533-1291 | 236-7480 | 4582 |
| 27 Mar. (86) | 3 Tues. | 3 2 30 | 1 Mar. (60) | 5 Thur. | 9869-6322 | 380-3640 | 205-9242 | 4583 |
| 27 Mar. (86) | 4 Wed. | 9 15 0 | 20 Mar. (79) | 4 Wed. | 9904-2718 | 316-3474 | 257-2339 | 4584 |
| 27 Mar. (86) | 5 Thur. | 15 27 30 | 9 Mar. (68) | 1 Sun. | 9779-9552 | 163-5822 | 226-4101 | 4585 |
| 26 Mar. (86) | 6 Fri. | 21 40 0 | 27 Feb. (58) | 6 Fri. | 9994-2705 | 47-1087 | 198-3239 | 4586 |
| 27 Mar. (86) | 1 Sun. | 3 52 30 | 17 Mar. (76) | 5 Thur. | 28-9101 | 983-0922 | 249-6337 | 4587 |
| 27 Mar. (86) | 2 Mon. | 10 5 0 | 7 Mar. (66) | 3 Tues. | 243-2253 | 866-6186 | 221-5476 | 4588 |
| 27 Mar. (86) | 3 Tues. | 16 17 30 | 26 Mar. (85) | 2 Mon. | 277-8650 | 802-6021 | 272-8573 | 4589 |
| 26 Mar. (86) | 4 Wed. | 22 30 0 | 14 Mar. (74) | 6 Fri. | 153-5484 | 649-8370 | 242-0335 | 4590 |
| 27 Mar. (86) | 6 Fri. | 4 42 30 | 3 Mar. (62) | 3 Tues. | 29-2318 | 497-0717 | 211-2097 | 4591 |
| 27 Mar. (86) | 0 Sat. | 10 65 0 | 22 Mar. (81) | 2 Mon. | 63-8714 | 433-0553 | 262-5194 | 4592 |
| 27 Mar. (86) | 1 Sun. | 17 7 30 | 11 Mar. (70) | 6 Fri. | 9939-5548 | 280-2901 | 231-6955 | 4593 |
| 26 Mar. (86) | 2 Mon. | 23 20 0 | 28 Feb. (59) | 3 Tues. | 9815-2381 | 127-5249 | 200-8716 | 4594 |
| 27 Mar. (86) | 4 Wed. | 5 32 30 | 18 Mar. (77) | 2 Mon. | 9849-8778 | 62-6684 | 252-1813 | 4595 |
| 27 Mar. (86) | 5 Thur. | 1 45 0 | 8 Mar. (67) | 0 Sat. | 64-1930 | 247-0348 | 224-095 | 4596 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|---------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATŚARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4597 | 1418 | 1553 | 902 | 670-71 | 1495-96 | 49 Rākshasa . | 56 Dandubhi . | ... |
| 4598 | 1419 | 1554 | 903 | 671-72 | *1496-97 | 50 Anala . | 57 Rudhīrōdgārin . | ... |
| 4599 | 1420 | 1555 | 904 | 672-73 | 1497-98 | 51 Piṅgala . | 58 Raktāksha . | 5 Śrāvapa . |
| 4600 | 1421 | 1556 | 905 | 673-74 | 1498-99 | 52 Kālayukta . | 59 Krōdhana . | ... |
| 4601 | 1422 | 1557 | 906 | 674-75 | 1499-1500 | 53 Siddhārthin . | 60 Kahaya . | ... |
| 4602 | 1423 | 1558 | 907 | 675-76 | *1500-01 | 54 Raundra . | 1 Prabhava . | 3 Jyēṣṭha . |
| 4603 | 1424 | 1559 | 908 | 676-77 | 1501-02 | 55 Darmati . | 2 Vihhava† . | ... |
| 4604 | 1425 | 1560 | 909 | 677-78 | 1502-03 | 56 Dandubhi . | 4 Pramōda . | ... |
| 4605 | 1426 | 1561 | 910 | 678-79 | 1503-04 | 57 Rudhīrōdgārin . | 5 Prajāpati . | 2 Vaiśākha . |
| 4606 | 1427 | 1562 | 911 | 679-80 | *1504-05 | 58 Raktāksha . | 6 Aḡirasa . | ... |
| 4607 | 1428 | 1563 | 912 | 680-81 | 1505-06 | 59 Krōdhana . | 7 Śrīmukha . | 6 Bhādrapada |
| 4608 | 1429 | 1564 | 913 | 681-82 | 1506-07 | 60 Kahaya . | 8 Bhāva . | ... |
| 4609 | 1430 | 1565 | 914 | 682-83 | 1507-08 | 1 Prabhava . | 9 Yuvana . | ... |
| 4610 | 1431 | 1566 | 915 | 683-84 | *1508-09 | 2 Vihhava . | 10 Dhātṛi . | 4 Āshāḍha . |
| 4611 | 1432 | 1567 | 916 | 684-85 | 1509-10 | 3 Śukla . | 11 Īvara . | ... |
| 4612 | 1433 | 1568 | 917 | 685-86 | 1510-11 | 4 Pramōda . | 12 Bahudhānya . | ... |
| 4613 | 1434 | 1569 | 918 | 686-87 | 1511-12 | 5 Prajāpati . | 13 Pramāthin . | 2 Vaiśākha . |
| 4614 | 1435 | 1570 | 919 | 687-88 | *1512-13 | 6 Aḡirasa . | 14 Vikrama . | ... |
| 4615 | 1436 | 1571 | 920 | 688-89 | 1513-14 | 7 Śrīmukha . | 15 Vṛiṣha . | 6 Bhādrapada |
| 4616 | 1437 | 1572 | 921 | 689-90 | 1514-15 | 8 Bhāva . | 16 Chitrobhānu . | ... |
| 4617 | 1438 | 1573 | 922 | 690-91 | 1515-16 | 9 Yuvana . | 17 Subhānu . | ... |
| 4618 | 1439 | 1574 | 923 | 691-92 | *1516-17 | 10 Dhātṛi . | 18 Tāraṇa . | 5 Śrāvapa . |
| 4619 | 1440 | 1575 | 924 | 692-93 | 1517-18 | 11 Īvara . | 19 Pārthiva . | ... |
| 4620 | 1441 | 1576 | 925 | 693-94 | 1518-19 | 12 Bahudhānya . | 20 Vyaya . | ... |
| 4621 | 1442 | 1577 | 926 | 694-95 | 1519-20 | 13 Pramāthin . | 21 Sarvajit . | 3 Jyēṣṭha . |

† No. 3 Śukla was suppressed in the north.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 27 Mar. (86) | 6 Fri. . | 17 57 30 | 27 Mar. (86) | 6 Fri. . | 98-8327 | 883-0184 | 275-4050 | 4507 |
| 27 Mar. (87) | 1 Sun. . | 0 10 0 | 16 Mar. (76) | 4 Wed. . | 313-1479 | 766-5447 | 247-3190 | 4508 |
| 27 Mar. (86) | 2 Mon. . | 6 22 30 | 5 Mar. (64) | 1 Sun. . | 188-8313 | 613-7706 | 216-4950 | 4599 |
| 27 Mar. (86) | 3 Tues. . | 12 35 0 | 23 Mar. (82) | 6 Fri. . | 9884-8390 | 513-4715 | 265-0670 | 4600 |
| 27 Mar. (86) | 4 Wed. . | 18 47 30 | 12 Mar. (71) | 3 Tues. . | 9760-5224 | 300-7063 | 234-2431 | 4601 |
| 27 Mar. (87) | 6 Fri. . | 1 0 0 | 1 Mar. (61) | 1 Sun. . | 9974-8377 | 244-2328 | 206-1571 | 4602 |
| 27 Mar. (86) | 0 Sat. . | 7 12 30 | 20 Mar. (79) | 0 Sat. . | 9-4773 | 180-2162 | 257-4668 | 4603 |
| 27 Mar. (86) | 1 Sun. . | 13 25 0 | 9 Mar. (68) | 4 Wed. . | 9885-1607 | 27-4510 | 226-6429 | 4604 |
| 27 Mar. (86) | 2 Mon. . | 19 37 30 | 27 Feb. (58) | 2 Mon. . | 99-4760 | 910-9775 | 198-5568 | 4605 |
| 27 Mar. (87) | 4 Wed. . | 1 50 0 | 17 Mar. (77) | 1 Sun. . | 134-1156 | 846-9609 | 249-8666 | 4606 |
| 27 Mar. (86) | 5 Thur. . | 8 2 30 | 6 Mar. (65) | 5 Thur. . | 9-7990 | 694-1958 | 219-0427 | 4607 |
| 27 Mar. (86) | 6 Fri. . | 14 15 0 | 25 Mar. (84) | 4 Wed. . | 44-4386 | 630-1793 | 270-3525 | 4608 |
| 27 Mar. (86) | 0 Sat. . | 20 27 30 | 14 Mar. (73) | 1 Sun. . | 9920-1220 | 477-4141 | 239-5286 | 4609 |
| 27 Mar. (87) | 2 Mon. . | 2 40 0 | 2 Mar. (62) | 5 Thur. . | 9795-8054 | 324-6489 | 208-7048 | 4610 |
| 27 Mar. (86) | 3 Tues. . | 8 52 30 | 21 Mar. (80) | 4 Wed. . | 9830-4450 | 260-6324 | 260-0144 | 4611 |
| 27 Mar. (86) | 4 Wed. . | 15 5 0 | 11 Mar. (70) | 2 Mon. . | 44-7603 | 144-1589 | 231-9284 | 4612 |
| 27 Mar. (86) | 5 Thur. . | 21 17 30 | 28 Feb. (59) | 6 Fri. . | 9920-4426 | 091-3736 | 201-1045 | 4613 |
| 27 Mar. (87) | 0 Sat. . | 3 30 0 | 18 Mar. (78) | 5 Thur. . | 9955-0923 | 927-3772 | 252-4142 | 4614 |
| 27 Mar. (86) | 1 Sun. . | 9 42 30 | 8 Mar. (67) | 3 Tues. . | 169-3984 | 810-9036 | 234-3282 | 4615 |
| 27 Mar. (86) | 2 Mon. . | 15 55 0 | 27 Mar. (86) | 2 Mon. . | 202-0381 | 746-8872 | 275-6379 | 4616 |
| 27 Mar. (86) | 3 Tues. . | 22 7 30 | 16 Mar. (75) | 6 Fri. . | 79-7215 | 694-1219 | 244-8140 | 4617 |
| 27 Mar. (87) | 5 Thur. . | 4 20 0 | 4 Mar. (64) | 3 Tues. . | 9955-4049 | 441-3567 | 213-9901 | 4618 |
| 27 Mar. (86) | 6 Fri. . | 10 32 30 | 23 Mar. (82) | 2 Mon. . | 9990-0445 | 377-3403 | 265-2999 | 4619 |
| 27 Mar. (86) | 0 Sat. . | 16 45 0 | 12 Mar. (71) | 6 Fri. . | 9865-7278 | 224-5750 | 234-4760 | 4620 |
| 27 Mar. (86) | 1 Sun. . | 22 57 30 | 2 Mar. (61) | 4 Wed. . | 80-0431 | 108-1015 | 206-3800 | 4621 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>ishaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A.D. | JYOTIS SAMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4622 | 1443 | 1578 | 927 | 695-96 | *1520-21 | 14 Vikrama | 22 Sarvadhārin | ... |
| 4623 | 1444 | 1579 | 928 | 696-97 | 1521-22 | 15 Vṛisha | 23 Virōdhin | ... |
| 4624 | 1445 | 1580 | 929 | 697-98 | 1522-23 | 16 Chitrabhānu | 24 Vikṛita | 2 Vaiśākha |
| 4625 | 1446 | 1581 | 930 | 698-99 | 1523-24 | 17 Subhānu | 25 Khara | ... |
| 4626 | 1447 | 1582 | 931 | 699-700 | *1524-25 | 18 Tāraka | 26 Nandana | 6 Bhādrapada |
| 4627 | 1448 | 1583 | 932 | 700-01 | 1525-26 | 19 Pārthiva | 27 Vijaya | ... |
| 4628 | 1449 | 1584 | 933 | 701-02 | 1526-27 | 20 Vyaya | 28 Jaya | ... |
| 4629 | 1450 | 1585 | 934 | 702-03 | 1527-28 | 21 Sarvajit | 29 Manmatha | 4 Āshādha |
| 4630 | 1451 | 1586 | 935 | 703-04 | *1528-29 | 22 Sarvadhārin | 30 Durmukha | ... |
| 4631 | 1452 | 1587 | 936 | 704-05 | 1529-30 | 23 Virōdhin | 31 Hīmalamba | ... |
| 4632 | 1453 | 1588 | 937 | 705-06 | 1530-31 | 24 Vikṛita | 32 Vilamba | 2 Vaiśākha |
| 4633 | 1454 | 1589 | 938 | 706-07 | 1531-32 | 25 Khara | 33 Vikārin | ... |
| 4634 | 1455 | 1590 | 939 | 707-08 | *1532-33 | 26 Nandana | 34 Sārvarin | 6 Bhādrapada |
| 4635 | 1456 | 1591 | 940 | 708-09 | 1533-34 | 27 Vijaya | 35 Plava | ... |
| 4636 | 1457 | 1592 | 941 | 709-10 | 1534-35 | 28 Jaya | 36 Subhakṛit | ... |
| 4637 | 1458 | 1593 | 942 | 710-11 | 1535-36 | 29 Manmatha | 37 Śobhana | 5 Śrāvāṇa |
| 4638 | 1459 | 1594 | 943 | 711-12 | *1536-37 | 30 Durmukha | 38 Krōdhin | ... |
| 4639 | 1460 | 1595 | 944 | 712-13 | 1537-38 | 31 Hīmalamba | 39 Vācārasu | ... |
| 4640 | 1461 | 1596 | 945 | 713-14 | 1538-39 | 32 Vilamba | 40 Parābhava | 3 Jyēṣṭha |
| 4641 | 1462 | 1597 | 946 | 714-15 | 1539-40 | 33 Vikārin | 41 Plavaṅga | ... |
| 4642 | 1463 | 1598 | 947 | 715-16 | *1540-41 | 34 Sārvarin | 42 Kīlaka | { 7 Āsvina† 10 Pousha(ish.) } |
| 4643 | 1464 | 1599 | 948 | 716-17 | 1541-42 | 35 Plava | 43 Saumya | 1 Chaitra |
| 4644 | 1465 | 1600 | 949 | 717-18 | 1542-43 | 36 Subhakṛit | 44 Śōdhārāṇa | ... |
| 4645 | 1466 | 1601 | 950 | 718-19 | 1543-44 | 37 Śobhana | 45 Virōdhakṛit | 6 Bhādrapada |
| 4646 | 1467 | 1602 | 951 | 719-20 | *1544-45 | 38 Krōdhin | 46 Paridhāvin | ... |

† A close case. At the Tulā-samkrānti the moon had been waxing for less than 2 minutes.

LXI—*Contd.*

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 27 Mar. (87) | 3 Tues. | 5 10 0 | 20 Mar. (80) | 3 Tues. | 114-6827 | 44-0850 | 257-6907 | 4622 | |
| 27 Mar. (86) | 4 Wed. | 11 22 30 | 9 Mar. (68) | 0 Sat. | 9990-3661 | 891-3198 | 226-8758 | 4623 | |
| 27 Mar. (86) | 5 Thur. | 17 35 0 | 27 Feb. (58) | 5 Thur. | 204-6814 | 774-8462 | 198-7897 | 4624 | |
| 27 Mar. (86) | 6 Fri. | 23 47 30 | 18 Mar. (77) | 4 Wed. | 239-3210 | 710-8297 | 250-0905 | 4625 | |
| 27 Mar. (87) | 1 Sun. | 6 0 0 | 6 Mar. (66) | 1 Sun. | 115-0044 | 558-0646 | 219-2756 | 4626 | |
| 27 Mar. (86) | 2 Mon. | 12 12 30 | 25 Mar. (84) | 0 Sat. | 149-6440 | 494-0480 | 270-5854 | 4627 | |
| 27 Mar. (86) | 3 Tues. | 18 25 0 | 14 Mar. (73) | 4 Wed. | 25-3274 | 341-2828 | 239-7615 | 4628 | |
| 28 Mar. (87) | 5 Thur. | 0 37 30 | 3 Mar. (62) | 1 Sun. | 9901-0108 | 188-5177 | 208-9577 | 4629 | |
| 27 Mar. (87) | 6 Fri. | 6 50 0 | 21 Mar. (81) | 0 Sat. | 9935-6504 | 124-5011 | 160-2473 | 4630 | |
| 27 Mar. (86) | 0 Sat. | 13 2 30 | 11 Mar. (70) | 5 Thur. | 149-9657 | 8-0276 | 232-1613 | 4631 | |
| 27 Mar. (86) | 1 Sun. | 19 15 0 | 28 Feb. (59) | 2 Mon. | 25-6490 | 855-2624 | 201-3374 | 4632 | |
| 28 Mar. (87) | 3 Tues. | 1 27 30 | 19 Mar. (78) | 1 Sun. | 60-2887 | 791-2459 | 252-6471 | 4633 | |
| 27 Mar. (87) | 4 Wed. | 7 40 0 | 8 Mar. (68) | 6 Fri. | 274-6009 | 674-7723 | 224-5641 | 4634 | |
| 27 Mar. (86) | 5 Thur. | 13 52 30 | 26 Mar. (85) | 4 Wed. | 9970-6117 | 574-4642 | 273-1230 | 4635 | |
| 27 Mar. (86) | 6 Fri. | 20 5 0 | 15 Mar. (74) | 1 Sun. | 9846-2851 | 421-6991 | 242-3091 | 4636 | |
| 28 Mar. (87) | 1 Sun. | 2 17 30 | 4 Mar. (63) | 5 Thur. | 9721-9785 | 268-9338 | 211-4853 | 4637 | |
| 27 Mar. (87) | 2 Mon. | 8 30 0 | 22 Mar. (82) | 4 Wed. | 9756-6181 | 204-9174 | 262-7950 | 4638 | |
| 27 Mar. (86) | 3 Tues. | 14 42 30 | 12 Mar. (71) | 2 Mon. | 9970-9333 | 88-4438 | 234-7089 | 4639 | |
| 27 Mar. (86) | 4 Wed. | 20 55 0 | 2 Mar. (61) | 0 Sat. | 185-2486 | 971-8702 | 206-6229 | 4640 | |
| 28 Mar. (87) | 6 Fri. | 3 7 30 | 21 Mar. (80) | 6 Fri. | 219-8882 | 907-9537 | 257-9326 | 4641 | |
| 27 Mar. (87) | 0 Sat. | 9 10 0 | 9 Mar. (69) | 3 Tues. | 95-5716 | 755-1885 | 227-1088 | 4642 | |
| 27 Mar. (86) | 1 Sun. | 15 32 30 | 26 Feb. (57) | 0 Sat. | 9971-2550 | 602-4234 | 196-2848 | 4643 | |
| 27 Mar. (86) | 2 Mon. | 21 45 0 | 17 Mar. (76) | 6 Fri. | 5-8946 | 538-4069 | 247-5946 | 4644 | |
| 28 Mar. (87) | 4 Wed. | 3 57 30 | 6 Mar. (65) | 3 Tues. | 9881-5780 | 385-6417 | 216-7797 | 4645 | |
| 27 Mar. (87) | 5 Thur. | 10 10 0 | 24 Mar. (84) | 2 Mon. | 9916-2175 | 521-6231 | 268-0805 | 4646 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4647 | 1468 | 1603 | 952 | 720-21 | 1545-46 | 39 Viśvāvasu . | 47 Pramādin . | ... |
| 4648 | 1469 | 1604 | 953 | 721-22 | 1546-47 | 40 Parābhava . | 48 Ānanda . | 4 Āshādha . |
| 4649 | 1470 | 1605 | 954 | 722-23 | 1547-48 | 41 Plavaṅga . | 49 Rākshasa . | ... |
| 4650 | 1471 | 1606 | 955 | 723-24 | *1548-49 | 42 Kilaka . | 50 Anala . | ... |
| 4651 | 1472 | 1607 | 956 | 724-25 | 1549-50 | 43 Saumya . | 51 Piṅgala . | 2 Vaiśākha . |
| 4652 | 1473 | 1608 | 957 | 725-26 | 1550-51 | 44 Sādhārāya . | 52 Kālayukta . | ... |
| 4653 | 1474 | 1609 | 958 | 726-27 | 1551-52 | 45 Virōdhakṛit . | 53 Siddhārthin . | 6 Bhādrapada . |
| 4654 | 1475 | 1610 | 959 | 727-28 | *1552-53 | 46 Paridhāvin . | 54 Randra . | ... |
| 4655 | 1476 | 1611 | 960 | 728-29 | 1553-54 | 47 Pramādin . | 55 Durmati . | ... |
| 4656 | 1477 | 1612 | 961 | 729-30 | 1554-55 | 48 Ānanda . | 56 Dundubhi . | 4 Āshādha . |
| 4657 | 1478 | 1613 | 962 | 730-31 | 1555-56 | 49 Rākshasa . | 57 Rudhirōdgārin . | ... |
| 4658 | 1479 | 1614 | 963 | 731-32 | *1556-57 | 50 Anala . | 58 Raktāksha . | ... |
| 4659 | 1480 | 1615 | 964 | 732-33 | 1557-58 | 51 Piṅgala . | 59 Krōdhana . | 3 Jyēṣṭha . |
| 4660 | 1481 | 1616 | 965 | 733-34 | 1558-59 | 52 Kālayukta . | 60 Kahaya . | ... |
| 4661 | 1482 | 1617 | 966 | 734-35 | 1559-60 | 53 Siddhārthin . | 1 Prabhava . | { 8 Kārtika 11 Māgha (<i>ksh.</i>) 12 Phālguna } |
| 4662 | 1483 | 1618 | 967 | 735-36 | *1560-61 | 54 Randra . | 2 Vibhava . | |
| 4663 | 1484 | 1619 | 968 | 736-37 | 1561-62 | 55 Durmati . | 3 Śukla . | |
| 4664 | 1485 | 1620 | 969 | 737-38 | 1562-63 | 56 Dundubhi . | 4 Pramōda . | 5 Śrāvaṇa . |
| 4665 | 1486 | 1621 | 970 | 738-39 | 1563-64 | 57 Rudhirōdgārin . | 5 Prajāpati . | ... |
| 4666 | 1487 | 1622 | 971 | 739-40 | *1564-65 | 58 Raktāksha . | 6 Āngirasa . | ... |
| 4667 | 1488 | 1623 | 972 | 740-41 | 1565-66 | 59 Krōdhana . | 7 Śrīmukha . | 4 Āshādha . |
| 4668 | 1489 | 1624 | 973 | 741-42 | 1566-67 | 60 Kshaya . | 8 Bhāva . | ... |
| 4669 | 1490 | 1625 | 974 | 742-43 | 1567-68 | 1 Prabhava . | 9 Yuvan . | ... |
| 4670 | 1491 | 1626 | 975 | 743-44 | *1568-69 | 2 Vibhava . | 10 Dhātci . | 2 Vaiśākha . |
| 4671 | 1492 | 1627 | 976 | 744-45 | 1569-70 | 3 Śukla . | 11 Jyēṣṭha . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 27 Mar. (86) | 6 Fri. . | 16 22 30 | 13 Mar. (72) | 6 Fri. . | 9791-9009 | 168-8599 | 237-2566 | 4647 | |
| 27 Mar. (86) | 0 Sat. . | 22 35 0 | 3 Mar. (62) | 4 Wed. | 6-2162 | 52-3864 | 203-1706 | 4648 | |
| 28 Mar. (87) | 2 Mon. . | 4 47 30 | 22 Mar. (81) | 3 Tues. | 40-9559 | 988-3699 | 260-4802 | 4649 | |
| 27 Mar. (87) | 3 Tues. . | 11 0 0 | 11 Mar. (71) | 1 Sun. | 255-1711 | 871-8904 | 232-3942 | 4650 | |
| 27 Mar. (86) | 4 Wed. | 17 12 30 | 28 Feb. (59) | 5 Thur. | 130-8544 | 719-1311 | 201-5703 | 4651 | |
| 27 Mar. (86) | 5 Thur. | 23 25 0 | 19 Mar. (78) | 4 Wed. | 165-4941 | 655-1147 | 252-8800 | 4652 | |
| 28 Mar. (87) | 0 Sat. . | 5 37 30 | 8 Mar. (67) | 1 Sun. . | 41-1774 | 502-3495 | 222-0562 | 4653 | |
| 27 Mar. (87) | 1 Sun. . | 11 50 0 | 26 Mar. (86) | 0 Sat. . | 75-8171 | 438-3329 | 273-3659 | 4654 | |
| 27 Mar. (86) | 2 Mon. . | 18 2 30 | 15 Mar. (74) | 4 Wed. | 9952-5005 | 285-5678 | 242-5420 | 4655 | |
| 28 Mar. (87) | 4 Wed. | 0 15 0 | 4 Mar. (63) | 1 Sun. . | 9827-1839 | 132-8021 | 211-7182 | 4656 | |
| 28 Mar. (87) | 5 Thur. | 6 27 30 | 23 Mar. (82) | 0 Sat. . | 9861-8235 | 68-7856 | 263-0279 | 4657 | |
| 27 Mar. (87) | 6 Fri. . | 12 40 0 | 12 Mar. (72) | 5 Thur. | 76-1387 | 952-3120 | 234-9418 | 4658 | |
| 27 Mar. (86) | 0 Sat. . | 18 52 30 | 2 Mar. (61) | 3 Tues. | 290-4540 | 835-8385 | 206-8558 | 4659 | |
| 28 Mar. (87) | 2 Mon. . | 1 5 0 | 21 Mar. (80) | 2 Mon. . | 325-0936 | 760-8220 | 258-1655 | 4660 | |
| 28 Mar. (87) | 3 Tues. | 7 17 30 | 10 Mar. (69) | 6 Fri. . | 200-7771 | 619-0567 | 227-3417 | 4661 | |
| 27 Mar. (87) | 4 Wed. | 13 30 0 | 27 Mar. (87) | 4 Wed. | 9896-7848 | 518-7487 | 275-9135 | 4662 | |
| 27 Mar. (86) | 5 Thur. | 19 42 30 | 16 Mar. (75) | 1 Sun. . | 9772-4081 | 365-9835 | 245-0897 | 4663 | |
| 28 Mar. (87) | 0 Sat. . | 1 55 0 | 6 Mar. (65) | 6 Fri. . | 9986-7834 | 249-5104 | 217-0033 | 4664 | |
| 28 Mar. (87) | 1 Sun. . | 8 7 30 | 25 Mar. (84) | 5 Thur. | 21-4230 | 185-4936 | 268-3134 | 4665 | |
| 27 Mar. (87) | 2 Mon. . | 14 20 0 | 13 Mar. (73) | 2 Mon. | 9897-1064 | 32-7287 | 237-4895 | 4666 | |
| 27 Mar. (86) | 3 Tues. | 20 32 30 | 3 Mar. (62) | 0 Sat. . | 111-4197 | 916-2552 | 209-4035 | 4667 | |
| 28 Mar. (87) | 5 Thur. | 2 45 0 | 22 Mar. (81) | 6 Fri. . | 149-0613 | 852-2386 | 200-7131 | 4668 | |
| 28 Mar. (87) | 6 Fri. . | 8 57 30 | 11 Mar. (70) | 3 Tues. | 21-7447 | 699-4735 | 229-8883 | 4669 | |
| 27 Mar. (87) | 0 Sat. . | 15 10 0 | 28 Feb. (59) | 0 Sat. . | 9897-4281 | 546-7083 | 196-1654 | 4670 | |
| 27 Mar. (86) | 1 Sun. . | 21 22 30 | 18 Mar. (77) | 3 Fri. . | 9912-0677 | 482-6917 | 250-3782 | 4671 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>laksapa</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali | Saka. | Chaitradī Vikrama. | Mēshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4672 | 1493 | 1628 | 977 | 745-46 | 1570-71 | 4 Pramōda . | 12 Bahudhānya . | 6 Bhādrapada |
| 4673 | 1494 | 1629 | 978 | 746-47 | 1571-72 | 5 Prajāpati . | 13 Pramāthin . | ... |
| 4674 | 1495 | 1630 | 979 | 747-48 | *1572-73 | 6 Aṅgīras . | 14 Vikrama . | ... |
| 4675 | 1496 | 1631 | 980 | 748-49 | 1573-74 | 7 Śrīmukha . | 15 Vṛisha . | 4 Āshāḍha . |
| 4676 | 1497 | 1632 | 981 | 749-50 | 1574-75 | 8 Bhāva . | 16 Chitrabhānu . | ... |
| 4677 | 1498 | 1633 | 982 | 750-51 | 1575-76 | 9 Yuvan . | 17 Subhānu . | ... |
| 4678 | 1499 | 1634 | 983 | 751-52 | *1576-77 | 10 Dhātṛi . | 18 Tārāṇa . | 3 Jyēṣṭha . |
| 4679 | 1500 | 1635 | 984 | 752-53 | 1577-78 | 11 Išvara . | 19 Pārthiva . | ... |
| 4680 | 1501 | 1636 | 985 | 753-54 | 1578-79 | 12 Bahudhānya . | 20 Vyaya . | 8 Kārttika . |
| 4681 | 1502 | 1637 | 986 | 754-55 | 1579-80 | 13 Pramāthin . | 21 Sarvajit . | ... |
| 4682 | 1503 | 1638 | 987 | 755-56 | *1580-81 | 14 Vikrama . | 22 Sarvadhārin . | ... |
| 4683 | 1504 | 1639 | 988 | 756-57 | 1581-82 | 15 Vṛisha . | 23 Virōdhin . | 5 Śrāvāṇa . |
| 4684 | 1505 | 1640 | 989 | 757-58 | 1582-83 | 16 Chitrabhānu . | 24 Vikṛita . | ... |
| 4685 | 1506 | 1641 | 990 | 758-59 | 1583-84 | 17 Subhānu . | 25 Khara . | ... |
| 4686 | 1507 | 1642 | 991 | 759-60 | *1584-85 | 18 Tārāṇa . | 26 Nandana . | 4 Āshāḍha . |
| 4687 | 1508 | 1643 | 992 | 760-61 | 1585-86 | 19 Pārthiva . | 27 Vijaya . | ... |
| 4688 | 1509 | 1644 | 993 | 761-62 | 1586-87 | 20 Vyaya . | 28 Jaya . | ... |
| 4689 | 1510 | 1645 | 994 | 762-63 | 1587-88 | 21 Sarvajit . | 29 Manmatha† . | 2 Valāḥka . |
| 4690 | 1511 | 1646 | 995 | 763-64 | *1588-89 | 22 Sarvadhārin . | 31 Himadamba . | ... |
| 4691 | 1512 | 1647 | 996 | 764-65 | 1589-90 | 23 Virōdhin . | 32 Vilamba . | 6 Bhādrapada |
| 4692 | 1513 | 1648 | 997 | 765-66 | 1590-91 | 24 Vikṛita . | 33 Vikārin . | ... |
| 4693 | 1514 | 1649 | 998 | 766-67 | 1591-92 | 25 Khara . | 34 Śāruvin . | ... |
| 4694 | 1515 | 1650 | 999 | 767-68 | *1592-93 | 26 Nandana . | 35 Plova . | 4 Āshāḍha . |
| 4695 | 1516 | 1651 | 1000 | 768-69 | 1593-94 | 27 Vijaya . | 36 Śubhākṛit . | ... |
| 4696 | 1517 | 1652 | 1001 | 769-70 | 1594-95 | 28 Jaya . | 37 Śobhana . | ... |

† No. 30 Darmati was suppressed in the north

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kal. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (87) | 3 Tues. . | 3 35 0 | 7 Mar. (66) | 3 Tues. . | 9807-7511 | 330-2366 | 219-5513 | 4672 | |
| 28 Mar. (87) | 4 Wed. . | 9 47 30 | 26 Mar. (85) | 2 Mon. . | 9842-3907 | 265-9101 | 270-8611 | 4673 | |
| 27 Mar. (87) | 5 Thur. . | 16 0 0 | 15 Mar. (75) | 0 Sat. . | 56-7060 | 149-4366 | 242-7749 | 4674 | |
| 27 Mar. (86) | 6 Fri. . | 22 12 30 | 4 Mar. (63) | 4 Wed. . | 9932-3894 | 906-6713 | 211-9511 | 4675 | |
| 28 Mar. (87) | 1 Sun. . | 4 25 0 | 23 Mar. (82) | 3 Tues. . | 9907-0290 | 932-6549 | 263-2608 | 4676 | |
| 28 Mar. (87) | 2 Mon. . | 10 37 30 | 13 Mar. (72) | 1 Sun. . | 181-3441 | 816-1813 | 235-1747 | 4677 | |
| 27 Mar. (87) | 3 Tues. . | 16 50 0 | 1 Mar. (61) | 5 Thur. . | 57-0275 | 663-4100 | 204-3509 | 4678 | |
| 27 Mar. (86) | 4 Wed. . | 23 2 30 | 20 Mar. (79) | 4 Wed. . | 91-0671 | 599-3906 | 255-9524 | 4679 | |
| 28 Mar. (87) | 6 Fri. . | 5 15 0 | 9 Mar. (68) | 1 Sun. . | 9967-3506 | 446-6344 | 224-8368 | 4680 | |
| 28 Mar. (87) | 0 Sat. . | 11 27 30 | 28 Mar. (87) | 0 Sat. . | 1-0902 | 382-6179 | 276-1464 | 4681 | |
| 27 Mar. (87) | 1 Sun. . | 17 40 0 | 16 Mar. (76) | 4 Wed. . | 9877-6735 | 229-8527 | 245-3226 | 4682 | |
| 27 Mar. (86) | 2 Mon. . | 23 52 30 | 6 Mar. (65) | 2 Mon. . | 91-9888 | 113-3791 | 217-2365 | 4683 | |
| 28 Mar. (87) | 4 Wed. . | 6 5 0 | 25 Mar. (84) | 1 Sun. . | 126-6284 | 49-3626 | 268-5463 | 4684 | |
| 28 Mar. (87) | 5 Thur. . | 12 17 30 | 14 Mar. (73) | 5 Thur. . | 2-3118 | 896-5974 | 237-7224 | 4685 | |
| 27 Mar. (87) | 6 Fri. . | 18 30 0 | 3 Mar. (63) | 3 Tues. . | 216-6271 | 780-1239 | 209-6363 | 4686 | |
| 28 Mar. (87) | 1 Sun. . | 0 42 30 | 22 Mar. (81) | 2 Mon. . | 251-2667 | 716-1074 | 260-9400 | 4687 | |
| 28 Mar. (87) | 2 Mon. . | 6 55 0 | 11 Mar. (70) | 6 Fri. . | 126-9501 | 563-3422 | 230-1222 | 4688 | |
| 28 Mar. (87) | 3 Tues. . | 13 7 30 | 28 Feb. (59) | 3 Tues. . | 2-6335 | 410-5770 | 199-2983 | 4689 | |
| 27 Mar. (87) | 4 Wed. . | 19 20 0 | 18 Mar. (78) | 2 Mon. . | 37-2731 | 346-5605 | 250-0081 | 4690 | |
| 28 Mar. (87) | 6 Fri. . | 1 32 30 | 7 Mar. (66) | 6 Fri. . | 9912-9595 | 193-7953 | 219-7842 | 4691 | |
| 28 Mar. (87) | 0 Sat. . | 7 45 0 | 26 Mar. (85) | 5 Thur. . | 9947-5961 | 129-7788 | 271-0939 | 4692 | |
| 28 Mar. (87) | 1 Sun. . | 13 57 30 | 16 Mar. (75) | 3 Tues. . | 161-9114 | 13-2053 | 243-0078 | 4693 | |
| 27 Mar. (87) | 2 Mon. . | 20 10 0 | 4 Mar. (64) | 0 Sat. . | 37-5948 | 800-5401 | 212 1840 | 4694 | |
| 28 Mar. (87) | 4 Wed. . | 2 22 30 | 23 Mar. (82) | 6 Fri. . | 72-2344 | 796-5236 | 265-4927 | 4695 | |
| 28 Mar. (87) | 5 Thur. . | 8 35 0 | 13 Mar. (72) | 4 Wed. . | 286-5496 | 680-0500 | 233 4076 | 4696 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4697 | 1518 | 1653 | 1002 | 770-71 | 1595-96 | 29 Manmatha . | 38 Krōdhi . | 3 Jyēshṭha . |
| 4698 | 1519 | 1654 | 1003 | 771-72 | *1596-97 | 30 Durmukha . | 39 Vīśākhā . | ... |
| 4699 | 1520 | 1655 | 1004 | 772-73 | 1597-98 | 31 Hēmalambā . | 40 Parābhavā . | 8 Kārttika . |
| 4700 | 1521 | 1656 | 1005 | 773-74 | 1598-99 | 32 Vilambā . | 41 Plavāṅga . | ... |
| 4701 | 1522 | 1657 | 1006 | 774-75 | 1599-1600 | 33 Vikārīn . | 42 Kūṭaka . | ... |
| 4702 | 1523 | 1658 | 1007 | 775-76 | *1600-01 | 34 Śārvarīn . | 43 Saumya . | 5 Śrāvapa . |
| 4703 | 1524 | 1659 | 1008 | 776-77 | 1601-02 | 35 Plava . | 44 Sādhārāpa . | ... |
| 4704 | 1525 | 1660 | 1009 | 777-78 | 1602-03 | 36 Śubhakṛit . | 45 Virōdhakṛit . | ... |
| 4705 | 1526 | 1661 | 1010 | 778-79 | 1603-04 | 37 Śōbbhā . | 46 Paridhāvin . | 4 Āshādha . |
| 4706 | 1527 | 1662 | 1011 | 779-80 | *1604-05 | 38 Krōdhīn . | 47 Pramādin . | ... |
| 4707 | 1528 | 1663 | 1012 | 780-81 | 1605-06 | 39 Vīśākhā . | 48 Ānanda . | ... |
| 4708 | 1529 | 1664 | 1013 | 781-82 | 1606-07 | 40 Parābhava . | 49 Rākshasa . | 1 Chaitra . |
| 4709 | 1530 | 1665 | 1014 | 782-83 | 1607-08 | 41 Plavāṅga . | 50 Anala . | ... |
| 4710 | 1531 | 1666 | 1015 | 783-84 | *1608-09 | 42 Kūṭaka . | 51 Piṅgala . | 6 Bhādrapada . |
| 4711 | 1532 | 1667 | 1016 | 784-85 | 1609-10 | 43 Saumya . | 52 Kālayukta . | ... |
| 4712 | 1533 | 1668 | 1017 | 785-86 | 1610-11 | *44 Sādhārāpa . | 53 Siddhārthin . | ... |
| 4713 | 1534 | 1669 | 1018 | 786-87 | 1611-12 | 45 Virōdhakṛit . | 54 Raudra . | 4 Āshādha . |
| 4714 | 1535 | 1670 | 1019 | 787-88 | *1612-13 | 46 Paridhāvin . | 55 Durmatī . | ... |
| 4715 | 1536 | 1671 | 1020 | 788-89 | 1613-14 | 47 Pramādin . | 56 Dundubhī . | ... |
| 4716 | 1537 | 1672 | 1021 | 789-90 | 1614-15 | 48 Ānanda . | 57 Rudhirōdgārīn . | 3 Jyēshṭha . |
| 4717 | 1538 | 1673 | 1022 | 790-91 | 1615-16 | 49 Rākshasa . | 58 Raktākha . | ... |
| 4718 | 1539 | 1674 | 1023 | 791-92 | *1616-17 | 50 Anala . | 59 Krōdhana . | 7 Āśvina . |
| 4719 | 1540 | 1675 | 1024 | 792-93 | 1617-18 | 1 Piṅgala . | 60 Kshaya . | ... |
| 4720 | 1541 | 1676 | 1025 | 793-94 | 1618-19 | 52 Kālayukta . | 1 Prabhava . | ... |
| 4721 | 1542 | 1677 | 1026 | 794-95 | 1619-20 | 53 Siddhārthin . | 2 Vibhava . | 5 Śrāvapa . |

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| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITHA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (87) | 6 Fri. . | 14 47 30 | 2 Mar. (61) | 1 Sun. . | 162-2330 | 527-2848 | 204-5838 | 4697 | |
| 27 Mar. (87) | 0 Sat. . | 21 0 0 | 19 Mar. (79) | 6 Fri. . | 9858-2408 | 426-9767 | 253-1557 | 4698 | |
| 28 Mar. (87) | 2 Mon. . | 3 12 30 | 8 Mar. (67) | 3 Tues. | 9733-9241 | 274-2115 | 222-3318 | 4699 | |
| 28 Mar. (87) | 3 Tues. | 9 25 0 | 27 Mar. (86) | 2 Mon. . | 9768-5638 | 210-1931 | 273-6415 | 4700 | |
| 28 Mar. (87) | 4 Wed. | 15 37 30 | 17 Mar. (76) | 0 Sat. . | 9982-8789 | 93-7214 | 245-5555 | 4701 | |
| 27 Mar. (87) | 5 Thur. | 21 50 0 | 6 Mar. (66) | 5 Thur. | 197-1942 | 977-2479 | 218-4694 | 4702 | |
| 28 Mar. (87) | 0 Sat. . | 4 2 30 | 25 Mar. (84) | 4 Wed. | 231-8338 | 913-2313 | 268-7792 | 4703 | |
| 28 Mar. (87) | 1 Sun. . | 10 15 0 | 14 Mar. (73) | 1 Sun. . | 107-5172 | 700-4601 | 237-9552 | 4704 | |
| 28 Mar. (87) | 2 Mon. . | 16 27 30 | 3 Mar. (62) | 5 Thur. | 9983-2000 | 607-7010 | 207-1314 | 4705 | |
| 27 Mar. (87) | 3 Tues. | 22 40 0 | 21 Mar. (81) | 4 Wed. | 17-8492 | 543-6844 | 258-4411 | 4706 | |
| 28 Mar. (87) | 5 Thur. | 4 52 30 | 10 Mar. (69) | 1 Sun. . | 9803-5236 | 390-9192 | 227-6173 | 4707 | |
| 28 Mar. (87) | 6 Fri. . | 11 5 0 | 27 Feb. (58) | 5 Thur. | 9769-2070 | 238-1541 | 196-7934 | 4708 | |
| 28 Mar. (87) | 0 Sat. . | 17 17 30 | 18 Mar. (77) | 4 Wed. | 9803-8466 | 174-1376 | 248-1032 | 4709 | |
| 27 Mar. (87) | 1 Sun. . | 23 30 0 | 7 Mar. (67) | 2 Mon. . | 18-1619 | 57-6640 | 220-0171 | 4710 | |
| 28 Mar. (87) | 3 Tues. | 5 42 30 | 26 Mar. (85) | 1 Sun. . | 52-8015 | 993-6475 | 271-3267 | 4711 | |
| 28 Mar. (87) | 4 Wed. | 11 55 0 | 16 Mar. (75) | 6 Fri. . | 267-1178 | 877-1740 | 243-2407 | 4712 | |
| 28 Mar. (87) | 5 Thur. | 18 7 30 | 5 Mar. (64) | 3 Tues. | 142-8002 | 724-4087 | 212-4169 | 4713 | |
| 28 Mar. (88) | 0 Sat. . | 0 20 0 | 23 Mar. (83) | 2 Mon. . | 177-4398 | 660-3923 | 263-7266 | 4714 | |
| 28 Mar. (87) | 1 Sun. . | 6 32 30 | 12 Mar. (71) | 6 Fri. . | 53-1233 | 507-6271 | 232-9028 | 4715 | |
| 28 Mar. (87) | 2 Mon. . | 12 45 0 | 1 Mar. (60) | 3 Tues. | 9928-8064 | 254-8619 | 202-0789 | 4716 | |
| 28 Mar. (87) | 3 Tues. | 18 57 30 | 20 Mar. (79) | 2 Mon. . | 9962-4462 | 290-8454 | 253-3885 | 4717 | |
| 28 Mar. (88) | 5 Thur. | 1 10 0 | 8 Mar. (68) | 6 Fri. . | 9839-1305 | 138-0802 | 222-5647 | 4718 | |
| 28 Mar. (87) | 6 Fri. . | 7 22 30 | 27 Mar. (86) | 5 Thur. | 9874-7691 | 74-0637 | 273-8744 | 4719 | |
| 28 Mar. (87) | 0 Sat. . | 13 35 0 | 17 Mar. (76) | 3 Tues. | 88-0843 | 967-5901 | 245-7884 | 4720 | |
| 28 Mar. (87) | 1 Sun. . | 19 47 30 | 7 Mar. (66) | 1 Sun. . | 302-3996 | 841-1165 | 217-7922 | 4721 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>Lakhsya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kalī. | Saka. | Chaitrādi Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4722 | 1543 | 1678 | 1027 | 795-96 | *1620-21 | 54 Raudra . | 3 Śukla . | ... |
| 4723 | 1544 | 1679 | 1028 | 796-97 | 1621-22 | 55 Dūrmati . | 4 Pramōḍa . | ... |
| 4724 | 1545 | 1680 | 1029 | 797-98 | 1622-23 | 56 Dundubhī . | 5 Prajāpati . | 4 Āshāḍha . |
| 4725 | 1546 | 1681 | 1030 | 798-99 | 1623-24 | 57 Rudhirōdgārin . | 6 Aṅgīras . | ... |
| 4726 | 1547 | 1682 | 1031 | 799-800 | *1624-25 | 58 Raktāksha . | 7 Śrīmukha . | ... |
| 4727 | 1548 | 1683 | 1032 | 800-01 | 1625-26 | 59 Krōdhana . | 8 Bhāva . | 1 Chaitra . |
| 4728 | 1549 | 1684 | 1033 | 801-02 | 1626-27 | 60 Kshaya . | 9 Yuvan . | ... |
| 4729 | 1550 | 1685 | 1034 | 802-03 | 1627-28 | 1 Prabhava . | 10 Dhātṛi . | 5 Śrāvāṇa . |
| 4730 | 1551 | 1686 | 1035 | 803-04 | *1628-29 | 2 Vibhava . | 11 Īvara . | ... |
| 4731 | 1552 | 1687 | 1036 | 804-05 | 1629-30 | 3 Śukla . | 12 Bahudhānya . | ... |
| 4732 | 1553 | 1688 | 1037 | 805-06 | 1630-31 | 4 Pramōḍa . | 13 Pramāthin . | 4 Āshāḍha . |
| 4733 | 1554 | 1689 | 1038 | 806-07 | 1631-32 | 5 Prajāpati . | 14 Vikrama . | ... |
| 4734 | 1555 | 1690 | 1039 | 807-08 | *1632-33 | 6 Aṅgīras . | 15 Vṛisha . | ... |
| 4735 | 1556 | 1691 | 1040 | 808-09 | 1633-34 | 7 Śrīmukha . | 16 Chitrabhānu . | 2 Vaiśākha . |
| 4736 | 1557 | 1692 | 1041 | 809-10 | 1634-35 | 8 Bhāva . | 17 Subhānu . | ... |
| 4737 | 1558 | 1693 | 1042 | 810-11 | 1635-36 | 9 Yuvan . | 18 Tārāṇa . | 6 Bhādrapada . |
| 4738 | 1559 | 1694 | 1043 | 811-12 | *1636-37 | 10 Dhātṛi . | 19 Pārthiva . | ... |
| 4739 | 1560 | 1695 | 1044 | 812-13 | 1637-38 | 11 Īvara . | 20 Vyaya . | ... |
| 4740 | 1561 | 1696 | 1045 | 813-14 | 1638-39 | 12 Bahudhānya . | 21 Sarvajit . | 5 Śrāvāṇa . |
| 4741 | 1562 | 1697 | 1046 | 814-15 | 1639-40 | 13 Pramāthin . | 22 Sarvadhārin . | ... |
| 4742 | 1563 | 1698 | 1047 | 815-16 | *1640-41 | 14 Vikrama . | 23 Virōdhin . | ... |
| 1743 | 1564 | 1699 | 1048 | 816-17 | 1641-42 | 15 Vṛisha . | 24 Vikṛita . | 3 Jyēṣṭha . |
| 4744 | 1565 | 1700 | 1049 | 817-18 | 1642-43 | 16 Chitrabhānu . | 25 Khara . | ... |
| 4745 | 1566 | 1701 | 1050 | 818-19 | 1643-44 | 17 Subhānu . | 26 Nandana . | ... |
| 4746 | 1567 | 1702 | 1051 | 819-20 | *1644-45 | 18 Tārāṇa . | 27 Vijaya . | 1 Chaitra . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (88) | 3 Tues. | 2 0 0 | 24 Mar. (84) | 6 Fri. | 9998-4073 | 740-8085 | 266-2743 | 4722 | |
| 28 Mar. (87) | 4 Wed. | 8 12 30 | 14 Mar. (73) | 4 Wed. | 212-7226 | 624-3349 | 238-1881 | 4723 | |
| 28 Mar. (87) | 5 Thur. | 14 25 0 | 3 Mar. (62) | 1 Sun. | 88-4060 | 471-5697 | 297-3643 | 4724 | |
| 28 Mar. (87) | 6 Fri. | 20 37 30 | 21 Mar. (80) | 6 Fri. | 9784-4137 | 371-2616 | 255-9262 | 4725 | |
| 28 Mar. (88) | 1 Sun. | 2 50 0 | 10 Mar. (70) | 4 Wed. | 9908-7290 | 254-7880 | 227-8502 | 4726 | |
| 28 Mar. (87) | 2 Mon. | 9 2 30 | 27 Feb. (58) | 1 Sun. | 9874-4124 | 102-0228 | 197-0263 | 4727 | |
| 28 Mar. (87) | 3 Tues. | 15 15 0 | 18 Mar. (77) | 0 Sat. | 9909-0520 | 38-0063 | 248-3361 | 4728 | |
| 28 Mar. (87) | 4 Wed. | 21 27 30 | 8 Mar. (67) | 5 Thur. | 123-3673 | 921-5328 | 220-2500 | 4729 | |
| 28 Mar. (88) | 6 Fri. | 3 49 0 | 26 Mar. (86) | 4 Wed. | 158-0079 | 857-5162 | 271-4596 | 4730 | |
| 28 Mar. (87) | 0 Sat. | 9 52 30 | 15 Mar. (74) | 1 Sun. | 33-6902 | 704-7511 | 240-7358 | 4731 | |
| 28 Mar. (87) | 1 Sun. | 16 5 0 | 4 Mar. (63) | 5 Thur. | 9909-3737 | 551-9859 | 209-9120 | 4732 | |
| 28 Mar. (87) | 2 Mon. | 22 17 30 | 23 Mar. (82) | 4 Wed. | 9944-0133 | 487-9693 | 261-2217 | 4733 | |
| 28 Mar. (88) | 4 Wed. | 4 30 0 | 11 Mar. (71) | 1 Sun. | 9819-6967 | 335-2042 | 230-3979 | 4734 | |
| 28 Mar. (87) | 5 Thur. | 10 42 30 | 1 Mar. (60) | 6 Fri. | 34-0119 | 218-7306 | 202-3118 | 4735 | |
| 28 Mar. (87) | 6 Fri. | 16 55 0 | 20 Mar. (79) | 5 Thur. | 68-6516 | 154-7141 | 253-1575 | 4736 | |
| 28 Mar. (87) | 0 Sat. | 23 7 30 | 9 Mar. (68) | 2 Mon. | 9944-3349 | 1-9489 | 222-7975 | 4737 | |
| 28 Mar. (88) | 2 Mon. | 5 20 0 | 27 Mar. (87) | 1 Sun. | 9978-9746 | 937-9325 | 274-1073 | 4738 | |
| 28 Mar. (87) | 3 Tues. | 11 32 30 | 17 Mar. (76) | 6 Fri. | 193-2898 | 821-4589 | 246-0213 | 4739 | |
| 28 Mar. (87) | 4 Wed. | 17 45 0 | 6 Mar. (65) | 3 Tues. | 68-9732 | 668-6936 | 215-1974 | 4740 | |
| 28 Mar. (87) | 5 Thur. | 23 57 30 | 25 Mar. (84) | 2 Mon. | 103-6128 | 604-6772 | 266-5072 | 4741 | |
| 28 Mar. (88) | 0 Sat. | 6 10 0 | 13 Mar. (73) | 6 Fri. | 9979-2962 | 451-9120 | 235-6833 | 4742 | |
| 28 Mar. (87) | 1 Sun. | 12 22 30 | 2 Mar. (61) | 3 Tues. | 9854-9796 | 299-1468 | 204-8594 | 4743 | |
| 28 Mar. (87) | 2 Mon. | 18 35 0 | 21 Mar. (80) | 2 Mon. | 9890-6192 | 235-1303 | 256-1691 | 4744 | |
| 29 Mar. (88) | 4 Wed. | 0 47 30 | 10 Mar. (69) | 6 Fri. | 9785-3026 | 82-3651 | 225-3453 | 4745 | |
| 28 Mar. (88) | 5 Thur. | 7 0 0 | 28 Feb. (59) | 4 Wed. | 9979-6178 | 965-8916 | 197-2592 | 4746 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēhādī solar year in Bengal. | Kollam. | A.D. | JYOTIS SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4747 | 1568 | 1703 | 1052 | 820-21 | 1645-46 | 19 Pārthiva . | 28 Jaya . | ... |
| 4748 | 1569 | 1704 | 1053 | 821-22 | 1646-47 | 20 Vyaya . | 29 Manmatha . | 5 Śrāvaya . |
| 4749 | 1570 | 1705 | 1054 | 822-23 | 1647-48 | 21 Sarvajit . | 30 Darmukha . | ... |
| 4750 | 1571 | 1706 | 1055 | 823-24 | *1648-49 | 22 Sarvadhārin . | 31 Hēmalamba . | ... |
| 4751 | 1572 | 1707 | 1056 | 824-25 | 1649-50 | 23 Virōdhin . | 32 Vilamba . | 4 Āshādha . |
| 4752 | 1573 | 1708 | 1057 | 825-26 | 1650-51 | 24 Vikṛita . | 33 Vikārin . | ... |
| 4753 | 1574 | 1709 | 1058 | 826-27 | 1651-52 | 25 Khara . | 34 Śārvarin . | ... |
| 4754 | 1575 | 1710 | 1059 | 827-28 | *1652-53 | 26 Nandana . | 35 Plava . | 2 Vaiśākha . |
| 4755 | 1576 | 1711 | 1060 | 828-29 | 1653-54 | 27 Vijaya . | 36 Subhaktit . | ... |
| 4756 | 1577 | 1712 | 1061 | 829-30 | 1654-55 | 28 Jaya . | 37 Śōbhana . | 6 Bhādrapada |
| 4757 | 1578 | 1713 | 1062 | 830-31 | 1655-56 | 29 Manmatha . | 38 Krōdhin . | ... |
| 4758 | 1579 | 1714 | 1063 | 831-32 | *1656-57 | 30 Darmukha . | 39 Viśvāvasu . | ... |
| 4759 | 1580 | 1715 | 1064 | 832-33 | 1657-58 | 31 Hēmalamba . | 40 Parābhava . | 5 Śrāvaya . |
| 4760 | 1581 | 1716 | 1065 | 833-34 | 1658-59 | 32 Vilamba . | 41 Plavaṅga . | ... |
| 4761 | 1582 | 1717 | 1066 | 834-35 | 1659-60 | 33 Vikārin . | 42 Kilaka . | ... |
| 4762 | 1583 | 1718 | 1067 | 835-36 | *1660-61 | 34 Śārvarin . | 43 Saumya . | 3 Jyēsthā . |
| 4763 | 1584 | 1719 | 1068 | 836-37 | 1661-62 | 35 Plava . | 44 Sūdhārāga . | ... |
| 4764 | 1585 | 1720 | 1069 | 837-38 | 1662-63 | 36 Subhaktit . | 45 Virōdhaktit . | ... |
| 4765 | 1586 | 1721 | 1070 | 838-39 | 1663-64 | 37 Śōbhana . | 46 Paridāvin . | 1 Chaitra |
| 4766 | 1587 | 1722 | 1071 | 839-40 | *1664-65 | 38 Krōdhin . | 47 Pramādin . | ... |
| 4767 | 1588 | 1723 | 1072 | 840-41 | 1665-66 | 39 Viśvāvasu . | 48 Ananda . | 5 Śrāvaya . |
| 4768 | 1589 | 1724 | 1073 | 841-42 | 1666-67 | 40 Parābhava . | 49 Rākshasa . | ... |
| 4769 | 1590 | 1725 | 1074 | 842-43 | 1667-68 | 41 Plavaṅga . | 50 Anala . | ... |
| 4770 | 1591 | 1726 | 1075 | 843-44 | *1668-69 | 42 Kilaka . | 51 Piṅgala . | 4 Āshādha . |
| 4771 | 1592 | 1727 | 1076 | 844-45 | 1669-70 | 43 Saumya . | 52 Kālayukta . | ... |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (87) | 6 Fri. | 13 12 30 | 18 Mar. (77) | 3 Tues. | 14-2674 | 901-8750 | 248-4690 | 4747 | |
| 28 Mar. (87) | 0 Sat. | 19 25 0 | 8 Mar. (67) | 1 Sun. | 229-5727 | 785-4015 | 220-4829 | 4748 | |
| 29 Mar. (88) | 2 Mon. | 1 37 30 | 27 Mar. (86) | 0 Sat. | 263-2124 | 720-3850 | 271-7925 | 4749 | |
| 28 Mar. (88) | 3 Tues. | 7 50 0 | 15 Mar. (75) | 4 Wed. | 138-8957 | 568-6198 | 240-9687 | 4750 | |
| 28 Mar. (87) | 4 Wed. | 14 2 30 | 4 Mar. (63) | 1 Sun. | 14-5791 | 415-8546 | 210-1440 | 4751 | |
| 28 Mar. (87) | 5 Thur. | 20 15 0 | 23 Mar. (82) | 0 Sat. | 49-2187 | 351-8381 | 261-4546 | 4752 | |
| 29 Mar. (88) | 0 Sat. | 2 27 30 | 12 Mar. (71) | 4 Wed. | 9924-9021 | 199-0730 | 230-6308 | 4753 | |
| 28 Mar. (88) | 1 Sun. | 8 40 0 | 29 Feb. (60) | 1 Sun. | 9800-5855 | 46-3077 | 192-8269 | 4754 | |
| 28 Mar. (87) | 2 Mon. | 14 52 30 | 20 Mar. (79) | 1 Sun. | 173-8370 | 18-5828 | 254-8044 | 4755 | |
| 28 Mar. (87) | 3 Tues. | 21 5 0 | 9 Mar. (68) | 5 Thur. | 49-5403 | 865-8177 | 223-0305 | 4756 | |
| 29 Mar. (88) | 5 Thur. | 3 17 30 | 28 Mar. (87) | 4 Wed. | 84-1800 | 801-8012 | 274-3402 | 4757 | |
| 28 Mar. (88) | 6 Fri. | 9 30 0 | 17 Mar. (77) | 2 Mon. | 298-4953 | 685-3276 | 246-2542 | 4758 | |
| 28 Mar. (87) | 0 Sat. | 15 42 30 | 6 Mar. (65) | 6 Fri. | 174-7786 | 532-5624 | 215-4303 | 4759 | |
| 28 Mar. (87) | 1 Sun. | 21 55 0 | 24 Mar. (83) | 4 Wed. | 9870-7864 | 432-2544 | 264-0023 | 4760 | |
| 29 Mar. (88) | 3 Tues. | 4 7 30 | 13 Mar. (72) | 1 Sun. | 9746-4097 | 279-4893 | 233-1784 | 4761 | |
| 28 Mar. (88) | 4 Wed. | 10 20 0 | 2 Mar. (62) | 6 Fri. | 9060-7850 | 163-0155 | 205-0743 | 4762 | |
| 28 Mar. (87) | 5 Thur. | 16 32 30 | 21 Mar. (80) | 5 Thur. | 9995-4246 | 98-9901 | 256-4020 | 4763 | |
| 28 Mar. (87) | 6 Fri. | 22 45 0 | 10 Mar. (69) | 2 Mon. | 9871-1090 | 946-2338 | 225-5782 | 4764 | |
| 29 Mar. (88) | 1 Sun. | 4 57 30 | 28 Feb. (59) | 0 Sat. | 84-8233 | 829-7603 | 197-4921 | 4765 | |
| 28 Mar. (88) | 2 Mon. | 11 10 0 | 18 Mar. (78) | 6 Fri. | 119-4629 | 765-8038 | 243-8019 | 4766 | |
| 28 Mar. (87) | 3 Tues. | 17 22 30 | 7 Mar. (66) | 3 Tues. | 9996-1463 | 612-9787 | 217-9780 | 4767 | |
| 28 Mar. (87) | 4 Wed. | 23 35 0 | 26 Mar. (85) | 2 Mon. | 29-7859 | 548-9621 | 269-2877 | 4768 | |
| 29 Mar. (88) | 6 Fri. | 5 47 30 | 15 Mar. (74) | 6 Fri. | 9905-4693 | 596-1963 | 238-4628 | 4769 | |
| 28 Mar. (88) | 0 Sat. | 12 0 0 | 3 Mar. (63) | 3 Tues. | 9781-1527 | 242-4318 | 207-6400 | 4770 | |
| 28 Mar. (87) | 1 Sun. | 18 12 30 | 22 Mar. (81) | 2 Mon. | 9815-7923 | 179-4152 | 252-9497 | 4771 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mōshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4772 | 1593 | 1728 | 1077 | 845-46 | 1670-71 | 44 Sādhāraṇa | 53 Siddhārthin | ... |
| 4773 | 1594 | 1729 | 1078 | 846-47 | 1671-72 | 45 Virōdhakṛit | 54 Raudra | 2 Vaiśākha |
| 4774 | 1595 | 1730 | 1079 | 847-48 | *1672-73 | 46 Paridhāvin | 55 Darmatī† | ... |
| 4775 | 1596 | 1731 | 1080 | 848-49 | 1673-74 | 47 Pramādin | 57 Rudhīrōdgārin | 6 Bhādrapada |
| 4776 | 1597 | 1732 | 1081 | 849-50 | 1674-75 | 48 Ānanda | 58 Raktāksha | ... |
| 4777 | 1598 | 1733 | 1082 | 850-51 | 1675-76 | 49 Rākshasa | 59 Krōdhana | ... |
| 4778 | 1599 | 1734 | 1083 | 851-52 | *1676-77 | 50 Anala | 60 Kshaya | 5 Śrāvapa |
| 4779 | 1600 | 1735 | 1084 | 852-53 | 1677-78 | 51 Piṅgala | 1 Prabhava | ... |
| 4780 | 1601 | 1736 | 1085 | 853-54 | 1678-79 | 52 Kālayukta | 2 Vibhava | ... |
| 4781 | 1602 | 1737 | 1086 | 854-55 | 1679-80 | 53 Siddhārthin | 3 Śukla | 3 Jyēṣṭha |
| 4782 | 1603 | 1738 | 1087 | 855-56 | *1680-81 | 54 Raudra | 4 Pramōda | ... |
| 4783 | 1604 | 1739 | 1088 | 856-57 | 1681-82 | 55 Darmatī | 5 Prajāpati | { 7 Āsvina 10 Pūṣha (<i>ksh.</i>) } |
| 4784 | 1605 | 1740 | 1089 | 857-58 | 1682-83 | 56 Dandabhi | 6 Āngiras | 1 Chaitra |
| 4785 | 1606 | 1741 | 1090 | 858-59 | 1683-84 | 57 Rudhīrōdgārin | 7 Śrīmukha | ... |
| 4786 | 1607 | 1742 | 1091 | 859-60 | *1684-85 | 58 Raktāksha | 8 Bhāva | 5 Śrāvapa |
| 4787 | 1608 | 1743 | 1092 | 860-61 | 1685-86 | 59 Krōdhana | 9 Yama | ... |
| 4788 | 1609 | 1744 | 1093 | 861-62 | 1686-87 | 60 Kshaya | 10 Dhātṛi | ... |
| 4789 | 1610 | 1745 | 1094 | 862-63 | 1687-88 | 1 Prabhava | 11 Isvara | 4 Āshāḍha |
| 4790 | 1611 | 1746 | 1095 | 863-64 | *1688-89 | 2 Vibhava | 12 Bahudhānya | ... |
| 4791 | 1612 | 1747 | 1096 | 864-65 | 1689-90 | 3 Śukla | 13 Pramāthin | ... |
| 4792 | 1613 | 1748 | 1097 | 865-66 | 1690-91 | 4 Pramōda | 14 Vikrama | 2 Vaiśākha |
| 4793 | 1614 | 1749 | 1098 | 866-67 | 1691-92 | 5 Prajāpati | 15 Vṛiṣha | ... |
| 4794 | 1615 | 1750 | 1099 | 867-68 | *1692-93 | 6 Āngiras | 16 Chitrabhānu | 6 Bhādrapada |
| 4795 | 1616 | 1751 | 1100 | 868-69 | 1693-94 | 7 Śrīmukha | 17 Sobhānu | ... |
| 4796 | 1617 | 1752 | 1101 | 869-70 | 1694-95 | 8 Bhāva | 18 Tārapa | ... |

† No. 56 Dandabhi was suppressed in the north.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 29 Mar. (88) | 3 Tues. | 0 25 0 | 12 Mar. (71) | 0 Sat. . | 30-1676 | 62-9417 | 230-8637 | 4772 | |
| 29 Mar. (88) | 4 Wed. | 6 37 30 | 1 Mar. (60) | 4 Wed. | 9905-7910 | 910-1765 | 200-0398 | 4773 | |
| 28 Mar. (88) | 5 Thur. | 12 50 0 | 20 Mar. (80) | 4 Wed. | 279-0625 | 882-4516 | 254-0873 | 4774 | |
| 28 Mar. (87) | 6 Fri. . | 19 2 30 | 9 Mar. (68) | 1 Sun. . | 154-7458 | 729-6864 | 223-2634 | 4775 | |
| 29 Mar. (88) | 1 Sun. . | 1 15 0 | 28 Mar. (87) | 0 Sat. . | 189-3855 | 665-6700 | 274-5731 | 4776 | |
| 29 Mar. (88) | 2 Mon. . | 7 27 30 | 17 Mar. (76) | 4 Wed. | 65-0688 | 512-9048 | 253-7493 | 4777 | |
| 28 Mar. (88) | 3 Tues. | 13 40 0 | 5 Mar. (65) | 1 Sun. . | 9940-7522 | 369-1395 | 212-9255 | 4778 | |
| 28 Mar. (87) | 4 Wed. | 19 52 30 | 24 Mar. (83) | 0 Sat. . | 9975-3918 | 296-1231 | 264-2352 | 4779 | |
| 29 Mar. (88) | 6 Fri. . | 2 5 0 | 13 Mar. (72) | 4 Wed. | 9851-0752 | 143-3579 | 233-4113 | 4780 | |
| 29 Mar. (88) | 0 Sat. . | 8 17 30 | 3 Mar. (62) | 2 Mon. . | 65-3904 | 26-8842 | 205-3252 | 4781 | |
| 28 Mar. (88) | 1 Sun. . | 14 30 0 | 21 Mar. (81) | 1 Sun. . | 100-0300 | 962-8678 | 256-6349 | 4782 | |
| 28 Mar. (87) | 2 Mon. . | 20 42 30 | 10 Mar. (69) | 5 Thur. | 9975-7134 | 810-1026 | 225-8111 | 4783 | |
| 29 Mar. (88) | 4 Wed. | 2 55 0 | 28 Feb. (59) | 3 Tues. | 100-0287 | 693-6290 | 197-7250 | 4784 | |
| 29 Mar. (88) | 5 Thur. | 9 7 30 | 19 Mar. (78) | 2 Mon. . | 224-6683 | 629-6125 | 249-0348 | 4785 | |
| 28 Mar. (88) | 6 Fri. . | 15 20 0 | 7 Mar. (67) | 6 Fri. . | 100-3517 | 476-8474 | 218-2108 | 4786 | |
| 28 Mar. (87) | 0 Sat. . | 21 32 30 | 25 Mar. (84) | 4 Wed. | 9796-3594 | 376-5391 | 266-7828 | 4787 | |
| 29 Mar. (88) | 2 Mon. . | 3 45 0 | 15 Mar. (74) | 2 Mon. . | 10-6747 | 260-0656 | 238-6967 | 4788 | |
| 29 Mar. (88) | 3 Tues. | 9 57 30 | 4 Mar. (63) | 6 Fri. . | 9886-3581 | 167-3005 | 207-8729 | 4789 | |
| 28 Mar. (88) | 4 Wed. | 16 10 0 | 22 Mar. (82) | 5 Thur. | 9920-9977 | 43-2840 | 259-1826 | 4790 | |
| 28 Mar. (87) | 5 Thur. | 22 22 30 | 12 Mar. (71) | 3 Tues. | 135-3130 | 926-8104 | 231-0966 | 4791 | |
| 29 Mar. (88) | 0 Sat. . | 4 35 0 | 1 Mar. (60) | 0 Sat. . | 10-9963 | 774-0452 | 200-2727 | 4792 | |
| 29 Mar. (88) | 1 Sun. . | 10 47 30 | 20 Mar. (79) | 6 Fri. . | 45-6360 | 710-0287 | 251-5824 | 4793 | |
| 28 Mar. (88) | 2 Mon. . | 17 0 0 | 8 Mar. (68) | 3 Tues. | 9921-3194 | 557-2636 | 220-7585 | 4794 | |
| 28 Mar. (87) | 3 Tues. | 23 12 30 | 27 Mar. (86) | 2 Mon. . | 9955-9590 | 493-2471 | 272-0682 | 4795 | |
| 29 Mar. (88) | 5 Thur. | 5 25 0 | 16 Mar. (75) | 6 Fri. . | 9831-6424 | 340-4819 | 241-2444 | 4796 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4797 | 1618 | 1753 | 1102 | 870-71 | 1695-96 | 9 Yuvan . | 19 Pārthiva . | 4 Āshādha . |
| 4798 | 1619 | 1754 | 1103 | 871-72 | *1696-97 | 10 Dhātṛi . | 20 Vyaya . | ... |
| 4799 | 1620 | 1755 | 1104 | 872-73 | 1697-98 | 11 Īvara . | 21 Sarvajit . | ... |
| 4800 | 1621 | 1756 | 1105 | 873-74 | 1698-99 | 12 Bahudhānya . | 22 Sarvadhārin . | 3 Jyēshṭha . |
| 4801 | 1622 | 1757 | 1106 | 874-75 | 1699-1700 | 13 Pramāthin . | 23 Virōdhin . | ... |
| 4802 | 1623 | 1758 | 1107 | 875-76 | *1700-01 | 14 Vikrama . | 24 Vikṛita . | { 7 Āsvina 11 Mṛgha (<i>ksh.</i>) } |
| 4803 | 1624 | 1759 | 1108 | 876-77 | 1701-02 | 15 Vṛisha . | 25 Khara . | |
| 4804 | 1625 | 1760 | 1109 | 877-78 | 1702-03 | 16 Chitrabhānu . | 26 Nandana . | ... |
| 4805 | 1626 | 1761 | 1110 | 878-79 | 1703-04 | 17 Subhānu . | 27 Vijaya . | 5 Śrāvāṇa . |
| 4806 | 1627 | 1762 | 1111 | 879-80 | *1704-05 | 18 Tāraṇa . | 28 Jaya . | ... |
| 4807 | 1628 | 1763 | 1112 | 880-81 | 1705-06 | 19 Pārthiva . | 29 Manmatha . | ... |
| 4808 | 1629 | 1764 | 1113 | 881-82 | 1706-07 | 20 Vyaya . | 30 Durmukha . | 4 Āshādha . |
| 4809 | 1630 | 1765 | 1114 | 882-83 | 1707-08 | 21 Sarvajit . | 31 Hēmalamba . | ... |
| 4810 | 1631 | 1766 | 1115 | 883-84 | *1708-09 | 22 Sarvadhārin . | 32 Vilamba . | ... |
| 4811 | 1632 | 1767 | 1116 | 884-85 | 1709-10 | 23 Virōdhin . | 33 Vikārin . | 2 Vaiśākha . |
| 4812 | 1633 | 1768 | 1117 | 885-86 | 1710-11 | 24 Vikṛita . | 34 Śārvarin . | ... |
| 4813 | 1634 | 1769 | 1118 | 886-87 | 1711-12 | 25 Khara . | 35 Plava . | 6 Bhādrapada . |
| 4814 | 1635 | 1770 | 1119 | 887-88 | *1712-13 | 26 Nandana . | 36 Subhakarit . | ... |
| 4815 | 1636 | 1771 | 1120 | 888-89 | 1713-14 | 27 Vijaya . | 37 Śobhana . | ... |
| 4816 | 1637 | 1772 | 1121 | 889-90 | 1714-15 | 28 Jaya . | 38 Krōdhin . | 4 Āshādha . |
| 4817 | 1638 | 1773 | 1122 | 890-91 | 1715-16 | 29 Manmatha . | 39 Viśvāvasu . | ... |
| 4818 | 1639 | 1774 | 1123 | 891-92 | *1716-17 | 30 Durmukha . | 40 Parābhava . | ... |
| 4819 | 1640 | 1775 | 1124 | 892-93 | 1717-18 | 31 Hēmalamba . | 41 Plavaṅga . | 3 Jyēshṭha . |
| 4820 | 1641 | 1776 | 1125 | 893-94 | 1718-19 | 32 Vilamba . | 42 Khaka . | ... |
| 4821 | 1642 | 1777 | 1126 | 894-95 | 1719-20 | 33 Vikārin . | 43 Saumya . | 7 Āsvina . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS) | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 29 Mar. (88) | 6 Fri. | 11 37 30 | 6 Mar. (65) | 4 Wed. | 45-9577 | 224-0083 | 213-1584 | 4797 |
| 28 Mar. (88) | 0 Sat. | 17 50 0 | 23 Mar. (83) | 2 Mon. | 9741-9654 | 123-7001 | 261-7303 | 4798 |
| 29 Mar. (88) | 2 Mon. | 0 2 30 | 13 Mar. (72) | 0 Sat. | 9956-2806 | 7-2266 | 233-6441 | 4799 |
| 29 Mar. (88) | 3 Tues. | 6 15 0 | 3 Mar. (62) | 5 Thur. | 170-5959 | 890-7531 | 205-5581 | 4800 |
| 29 Mar. (88) | 4 Wed. | 12 27 30 | 22 Mar. (81) | 4 Wed. | 205-2355 | 829-7366 | 256-8678 | 4801 |
| 28 Mar. (88) | 5 Thur. | 18 40 0 | 10 Mar. (79) | 1 Sun. | 80-9189 | 673-9714 | 226-0440 | 4802 |
| 29 Mar. (88) | 0 Sat. | 0 52 30 | 27 Feb. (58) | 5 Thur. | 9956-6022 | 521-2062 | 195-2191 | 4803 |
| 29 Mar. (88) | 1 Sun. | 7 5 0 | 18 Mar. (77) | 4 Wed. | 9991-2419 | 357-1897 | 246-5298 | 4804 |
| 29 Mar. (88) | 2 Mon. | 13 17 30 | 7 Mar. (66) | 1 Sun. | 9866-9253 | 304-4245 | 215-7059 | 4805 |
| 28 Mar. (88) | 3 Tues. | 19 30 0 | 25 Mar. (85) | 0 Sat. | 9901-5649 | 240-4080 | 267-0157 | 4806 |
| 29 Mar. (88) | 5 Thur. | 1 42 30 | 14 Mar. (73) | 4 Wed. | 9777-2483 | 87-6428 | 236-1918 | 4807 |
| 29 Mar. (88) | 6 Fri. | 7 55 0 | 4 Mar. (63) | 2 Mon. | 9991-5636 | 971-1693 | 208-1058 | 4808 |
| 29 Mar. (88) | 0 Sat. | 14 7 30 | 23 Mar. (82) | 1 Sun. | 26-2632 | 907-1528 | 259-4155 | 4809 |
| 28 Mar. (88) | 1 Sun. | 20 20 0 | 12 Mar. (72) | 6 Fri. | 240-5185 | 790-6792 | 231-2295 | 4810 |
| 29 Mar. (88) | 3 Tues. | 2 32 30 | 1 Mar. (60) | 3 Tues. | 116-2018 | 637-9140 | 200-5055 | 4811 |
| 29 Mar. (88) | 4 Wed. | 8 45 0 | 20 Mar. (79) | 2 Mon. | 150-8415 | 573-8975 | 251-8153 | 4812 |
| 29 Mar. (88) | 5 Thur. | 14 57 30 | 9 Mar. (68) | 6 Fri. | 26-5249 | 421-1323 | 220-9914 | 4813 |
| 28 Mar. (88) | 6 Fri. | 21 10 0 | 27 Mar. (87) | 5 Thur. | 61-1645 | 357-1158 | 272-3011 | 4814 |
| 29 Mar. (88) | 1 Sun. | 3 22 30 | 16 Mar. (75) | 2 Mon. | 9936-8478 | 204-3506 | 241-4773 | 4815 |
| 29 Mar. (88) | 2 Mon. | 9 35 0 | 5 Mar. (64) | 6 Fri. | 9812-5312 | 51-5855 | 210-6535 | 4816 |
| 29 Mar. (88) | 3 Tues. | 15 47 30 | 24 Mar. (83) | 5 Thur. | 9847-1709 | 987-5689 | 261-9631 | 4817 |
| 28 Mar. (88) | 4 Wed. | 22 0 0 | 13 Mar. (73) | 3 Tues. | 61-4864 | 871-0954 | 233-8770 | 4818 |
| 29 Mar. (88) | 6 Fri. | 4 12 30 | 3 Mar. (62) | 1 Sun. | 275-8013 | 754-6218 | 205-7910 | 4819 |
| 29 Mar. (88) | 0 Sat. | 10 5 0 | 22 Mar. (81) | 0 Sat. | 310-4410 | 691-6053 | 257-1007 | 4820 |
| 29 Mar. (88) | 1 Sun. | 16 37 30 | 11 Mar. (70) | 4 Wed. | 186-1243 | 537-8401 | 226-2769 | 4821 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4822 | 1643 | 1778 | 1127 | 895-96 | *1720-21 | 34 Śārvarin | 44 Sādhārāṇa | ... |
| 4823 | 1644 | 1779 | 1128 | 896-97 | 1721-22 | 35 Plava | 45 Virōdhakṛit | ... |
| 4824 | 1645 | 1780 | 1129 | 897-98 | 1722-23 | 36 Śubhakṛit | 46 Paridhāvin | 5 Śrāvāṇa |
| 4825 | 1646 | 1781 | 1130 | 898-99 | 1723-24 | 37 Śōbhana | 47 Pramādin | ... |
| 4826 | 1647 | 1782 | 1131 | 899-900 | *1724-25 | 38 Krōdhin | 48 Ānanda | ... |
| 4827 | 1648 | 1783 | 1132 | 900-01 | 1725-26 | 39 Viśvāvasu | 49 Rākshasa | 4 Āshāḍha |
| 4828 | 1649 | 1784 | 1133 | 901-02 | 1726-27 | 40 Parābhava | 50 Anala | ... |
| 4829 | 1650 | 1785 | 1134 | 902-03 | 1727-28 | 41 Plavaṅga | 51 Piṅgala | ... |
| 4830 | 1651 | 1786 | 1135 | 903-04 | *1728-29 | 42 Kilaka | 52 Kālayukta | 2 Vaiśākha |
| 4831 | 1652 | 1787 | 1136 | 904-05 | 1729-30 | 43 Saumya | 53 Siddhārthin | ... |
| 4832 | 1653 | 1788 | 1137 | 905-06 | 1730-31 | 44 Sādhārāṇa | 54 Raudra | 6 Bhādrapada |
| 4833 | 1654 | 1789 | 1138 | 906-07 | 1731-32 | 45 Virōdhakṛit | 55 Durmati | ... |
| 4834 | 1655 | 1790 | 1139 | 907-08 | *1732-33 | 46 Paridhāvin | 56 Dundubhi | ... |
| 4835 | 1656 | 1791 | 1140 | 908-09 | 1733-34 | 47 Pramādin | 57 Rudhirōdgārin | 4 Āshāḍha |
| 4836 | 1657 | 1792 | 1141 | 909-10 | 1734-35 | 48 Ānanda | 58 Raktāksha | ... |
| 4837 | 1658 | 1793 | 1142 | 910-11 | 1735-36 | 49 Rākshasa | 59 Krōdhana | ... |
| 4838 | 1659 | 1794 | 1143 | 911-12 | *1736-37 | 50 Anala | 60 Kshaya | 3 Jyēṣṭha |
| 4839 | 1660 | 1795 | 1144 | 912-13 | 1737-38 | 51 Piṅgala | 1 Prabhava | ... |
| 4840 | 1661 | 1796 | 1145 | 913-14 | 1738-39 | 52 Kālayukta | 2 Vibhava | 7 Āsrina |
| 4841 | 1662 | 1797 | 1146 | 914-15 | 1739-40 | 53 Siddhārthin | 3 Śukla | ... |
| 4842 | 1663 | 1798 | 1147 | 915-16 | *1740-41 | 54 Raudra | 4 Pramōda | ... |
| 4843 | 1664 | 1799 | 1148 | 916-17 | 1741-42 | 55 Durmati | 5 Prajāpati | 5 Śrāvāṇa |
| 4844 | 1665 | 1800 | 1149 | 917-18 | 1742-43 | 56 Dundubhi | 6 Aṅgiras | ... |
| 4845 | 1666 | 1801 | 1150 | 918-19 | 1743-44 | 57 Rudhirōdgārin | 7 Śrīmukha | ... |
| 4846 | 1667 | 1802 | 1151 | 919-20 | *1744-45 | 58 Raktāksha | 8 Bhāva | 4 Āshāḍha |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kal. |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|------|
| SOLAR YEAR | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Māsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 28 Mar. (88) | 2 Mon. | 22 50 0 | 28 Mar. (88) | 2 Mon. | 9882-1321 | 437-5321 | 274-8488 | 4822 | |
| 29 Mar. (88) | 4 Wed. | 5 2 30 | 17 Mar. (76) | 6 Fri. | 9757-8155 | 284-7669 | 244-0249 | 4823 | |
| 29 Mar. (88) | 5 Thur. | 11 15 0 | 7 Mar. (66) | 4 Wed. | 9972-1307 | 168-2932 | 215-9388 | 4824 | |
| 29 Mar. (88) | 6 Fri. | 17 27 30 | 26 Mar. (85) | 3 Tues. | 6-7703 | 104-2763 | 267-2486 | 4825 | |
| 28 Mar. (88) | 0 Sat. | 23 40 0 | 14 Mar. (74) | 0 Sat. | 9882-4337 | 951-5116 | 236-4247 | 4826 | |
| 29 Mar. (88) | 2 Mon. | 5 52 30 | 4 Mar. (63) | 5 Thur. | 96-7690 | 835-0380 | 208-3387 | 4827 | |
| 29 Mar. (88) | 3 Tues. | 12 5 0 | 23 Mar. (82) | 4 Wed. | 131-4086 | 771-0315 | 259-6484 | 4828 | |
| 29 Mar. (88) | 4 Wed. | 18 17 30 | 12 Mar. (71) | 1 Sun. | 7-0920 | 618-2563 | 228-8246 | 4829 | |
| 29 Mar. (89) | 6 Fri. | 0 30 0 | 29 Feb. (60) | 5 Thur. | 9882-7754 | 465-4911 | 198-0006 | 4830 | |
| 29 Mar. (88) | 0 Sat. | 6 42 30 | 19 Mar. (78) | 4 Wed. | 9917-4150 | 401-4746 | 248-3104 | 4831 | |
| 29 Mar. (88) | 1 Sun. | 12 55 0 | 8 Mar. (67) | 1 Sun. | 9793-0984 | 248-7005 | 218-4865 | 4832 | |
| 29 Mar. (88) | 2 Mon. | 19 7 30 | 27 Mar. (86) | 0 Sat. | 9827-7380 | 184-6929 | 208-7963 | 4833 | |
| 29 Mar. (89) | 4 Wed. | 1 20 0 | 16 Mar. (76) | 5 Thur. | 42-0533 | 68-2194 | 241-7102 | 4834 | |
| 29 Mar. (88) | 5 Thur. | 7 32 30 | 5 Mar. (64) | 2 Mon. | 9917-7367 | 915-4542 | 210-8864 | 4835 | |
| 29 Mar. (88) | 6 Fri. | 13 45 0 | 24 Mar. (83) | 1 Sun. | 9952-3763 | 851-4377 | 260-1960 | 4836 | |
| 29 Mar. (88) | 0 Sat. | 19 57 30 | 14 Mar. (73) | 6 Fri. | 166-6915 | 734-9641 | 234-1099 | 4837 | |
| 29 Mar. (89) | 2 Mon. | 2 10 0 | 2 Mar. (62) | 3 Tues. | 42-3749 | 582-1989 | 203-2861 | 4838 | |
| 29 Mar. (88) | 3 Tues. | 8 22 30 | 21 Mar. (80) | 2 Mon. | 77-0146 | 518-1725 | 254-5958 | 4839 | |
| 29 Mar. (88) | 4 Wed. | 14 35 0 | 10 Mar. (69) | 6 Fri. | 9952-6979 | 365-4172 | 223-7720 | 4840 | |
| 29 Mar. (88) | 5 Thur. | 20 47 30 | 29 Mar. (88) | 5 Thur. | 9987-3376 | 301-4008 | 275-1017 | 4841 | |
| 29 Mar. (89) | 0 Sat. | 3 0 0 | 17 Mar. (77) | 2 Mon. | 9863-0209 | 148-6356 | 244-2579 | 4842 | |
| 29 Mar. (88) | 1 Sun. | 9 12 30 | 7 Mar. (66) | 0 Sat. | 77-3362 | 31-1520 | 216-17.7 | 4843 | |
| 29 Mar. (88) | 2 Mon. | 15 25 0 | 26 Mar. (85) | 6 Fri. | 111-9758 | 968-1455 | 267-4815 | 4844 | |
| 29 Mar. (88) | 3 Tues. | 21 37 30 | 15 Mar. (74) | 3 Tues. | 9987-6592 | 815-3803 | 236-6576 | 4845 | |
| 29 Mar. (89) | 5 Thur. | 3 50 0 | 4 Mar. (64) | 1 Sun. | 201-9744 | 698-9068 | 208-5707 | 4846 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māslādī solar year in Bengal. | Kollam. | A.D. | JOYINT SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4847 | 1668 | 1803 | 1152 | 920-21 | 1745-46 | 59 Krōdhana . | 9 Yuvan . | ... |
| 4848 | 1669 | 1804 | 1153 | 921-22 | 1746-47 | 60 Kshaya . | 10 Dhātṛi . | ... |
| 4849 | 1670 | 1805 | 1154 | 922-23 | 1747-48 | 1 Prabhava . | 11 Išvara . | 1 Chaitra . |
| 4850 | 1671 | 1806 | 1155 | 923-24 | 1748-49 | 2 Vibhava . | 12 Bahudhānya . | ... |
| 4851 | 1672 | 1807 | 1156 | 924-25 | 1749-50 | 3 Śukla . | 13 Pramāthin . | 6 Bahudhānya . |
| 4852 | 1673 | 1808 | 1157 | 925-26 | 1750-51 | 4 Pramōda . | 14 Vikrama . | ... |
| 4853 | 1674 | 1809 | 1158 | 926-27 | 1751-52 | 5 Prajāpati . | 15 Vṛisha . | ... |
| 4854 | 1675 | 1810 | 1159 | 927-28 | *1752-53 | 6 Aṅgira . | 16 Chitrabhānu . | 4 Āshādḥa . |
| 4855 | 1676 | 1811 | 1160 | 928-29 | 1753-54 | 7 Śrīmukha . | 17 Subhānu . | ... |
| 4856 | 1677 | 1812 | 1161 | 929-30 | 1754-55 | 8 Bhāra . | 18 Tāra . | ... |
| 4857 | 1678 | 1813 | 1162 | 930-31 | 1755-56 | 9 Yuvan . | 19 Pārthiva . | 3 Jyēṣṭha . |
| 4858 | 1679 | 1814 | 1163 | 931-32 | *1756-57 | 10 Dhātṛi . | 20 Vyaya . | ... |
| 4859 | 1680 | 1815 | 1164 | 932-33 | 1757-58 | 11 Išvara . | 21 Sarvajit† . | 7 Āsvina . |
| 4860 | 1681 | 1816 | 1165 | 933-34 | 1758-59 | 12 Bahudhānya . | 23 Viprādhin . | ... |
| 4861 | 1682 | 1817 | 1166 | 934-35 | 1759-60 | 13 Pramāthin . | 24 Vikṛita . | ... |
| 4862 | 1683 | 1818 | 1167 | 935-36 | *1760-61 | 14 Vikrama . | 25 Kṣara . | 5 Śrāvaṇa . |
| 4863 | 1684 | 1819 | 1168 | 936-37 | 1761-62 | 15 Vṛisha . | 26 Nandana . | ... |
| 4864 | 1685 | 1820 | 1169 | 937-38 | 1762-63 | 16 Chitrabhānu . | 27 Vijaya . | ... |
| 4865 | 1686 | 1821 | 1170 | 938-39 | 1763-64 | 17 Subhānu . | 28 Jaya . | 4 Āshādḥa . |
| 4866 | 1687 | 1822 | 1171 | 939-40 | *1764-65 | 18 Tāra . | 29 Maumatha . | ... |
| 4867 | 1688 | 1823 | 1172 | 940-41 | 1765-66 | 19 Pārthiva . | 30 Durmukha . | ... |
| 4868 | 1689 | 1824 | 1173 | 941-42 | 1766-67 | 20 Vyaya . | 31 Himāmba . | 1 Chaitra . |
| 4869 | 1690 | 1825 | 1174 | 942-43 | 1767-68 | 21 Sarvajit . | 32 Vilamba . | ... |
| 4870 | 1691 | 1826 | 1175 | 943-44 | *1768-69 | 22 Sarvadhāra . | 33 Vikāra . | 5 Śrāvaṇa . |
| 4971 | 1692 | 1827 | 1176 | 944-45 | 1769-70 | 23 Virādhin . | 34 Śāraṇa . | ... |

† 22 Sarvadhāra was suppressed in the North.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA SUKLA 1 ENDED). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 29 Mar. (88) | 6 Fri. . | 10 2 30 | 23 Mar. (82) | 0 Sat. . | 236-6140 | 634-8902 | 259-8813 | 4847 | |
| 29 Mar. (88) | 0 Sat. . | 16 15 0 | 12 Mar. (71) | 4 Wed. | 112-2974 | 482-1250 | 229-0575 | 4848 | |
| 29 Mar. (88) | 1 Sun. . | 22 27 30 | 1 Mar. (60) | 1 Sun. . | 9987-9800 | 329-3599 | 198-2335 | 4849 | |
| 29 Mar. (89) | 3 Tues. | 4 40 0 | 19 Mar. (79) | 0 Sat. . | 22-6204 | 265-3434 | 249-5433 | 4850 | |
| 29 Mar. (88) | 4 Wed. | 10 52 30 | 8 Mar. (67) | 4 Wed. | 9898-3038 | 112-5782 | 219-7194 | 4851 | |
| 29 Mar. (88) | 5 Thur. | 17 5 0 | 27 Mar. (86) | 3 Tues. | 9932-9434 | 48-5617 | 270-0292 | 4852 | |
| 29 Mar. (88) | 6 Fri. . | 23 17 30 | 17 Mar. (76) | 1 Sun. . | 147-2587 | 932-0882 | 241-9431 | 4853 | |
| 29 Mar. (89) | 1 Sun. . | 5 30 0 | 5 Mar. (65) | 5 Thur. | 22-9421 | 779-3229 | 211-1193 | 4854 | |
| 9 Apr. (99)‡ | 2 Mon. . | 11 42 30 | 4 Apr. (94)‡ | 4 Wed. . | 57-5817 | 715-3058 | 262-4289 | 4855 | |
| 9 Apr. (99) | 3 Tues. . | 17 55 0 | 24 Mar. (83) | 1 Sun. . | 9933-2651 | 562-5413 | 231-6051 | 4856 | |
| 10 Apr. (100) | 5 Thur. | 0 7 30 | 13 Mar. (72) | 5 Thur. | 9808-9484 | 409-7760 | 200-7812 | 4857 | |
| 9 Apr. (100) | 6 Fri. . | 6 20 0 | 31 Mar. (91) | 4 Wed. . | 9843-5881 | 345-7595 | 252-0910 | 4858 | |
| 9 Apr. (99) | 0 Sat. . | 12 32 30 | 20 Mar. (79) | 1 Sun. . | 9719-2715 | 192-0944 | 221-2671 | 4859 | |
| 9 Apr. (99) | 1 Sun. . | 18 45 0 | 8 Apr. (98) | 0 Sat. . | 9753-9111 | 128-9779 | 272-5768 | 4860 | |
| 10 Apr. (100) | 3 Tues. . | 0 57 30 | 29 Mar. (88) | 5 Thur. | 9908-2263 | 12-5043 | 244-4908 | 4861 | |
| 9 Apr. (100) | 4 Wed. . | 7 10 0 | 18 Mar. (78) | 3 Tues. . | 182-5416 | 890-0307 | 216-4046 | 4862 | |
| 9 Apr. (99) | 5 Thur. | 13 22 30 | 6 Apr. (96) | 2 Mon. . | 217-1812 | 832-9143 | 267-7144 | 4863 | |
| 9 Apr. (99) | 6 Fri. . | 19 35 0 | 26 Mar. (85) | 6 Fri. . | 92-8646 | 679-2490 | 236-8905 | 4864 | |
| 10 Apr. (100) | 1 Sun. | 1 47 30 | 15 Mar. (74) | 3 Tues. . | 9068-5480 | 526-4839 | 206-0667 | 4865 | |
| 9 Apr. (100) | 2 Mon. . | 8 0 0 | 2 Apr. (93) | 2 Mon. . | 3-1876 | 462-4674 | 257-3764 | 4866 | |
| 9 Apr. (99) | 3 Tues. . | 14 12 30 | 22 Mar. (81) | 6 Fri. . | 9878-8710 | 309-7022 | 226-5526 | 4867 | |
| 9 Apr. (99) | 4 Wed. . | 20 25 0 | 11 Mar. (70) | 3 Tues. . | 9754-5544 | 156-9270 | 195-7286 | 4868 | |
| 10 Apr. (100) | 6 Fri. . | 2 37 30 | 30 Mar. (89) | 2 Mon. . | 9789-1940 | 92-9205 | 247-0384 | 4869 | |
| 9 Apr. (100) | 0 Sat. . | 8 50 0 | 19 Mar. (79) | 0 Sat. . | 3-5093 | 976-4470 | 218-9523 | 4870 | |
| 9 Apr. (99) | 1 Sun. . | 15 2 30 | 7 Apr. (97) | 6 Fri. . | 38-1489 | 912-4304 | 270-2621 | 4871 | |

† From here, inclusive, the dates A. D. are in New Style.

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhiṭha</i>) and SUPPRESSED (<i>kashaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4872 | 1693 | 1828 | 1177 | 946-46 | 1770-71 | 24 Vikṛita . | 35 <i>Plava</i> . | .. |
| 4873 | 1694 | 1829 | 1178 | 946-47 | 1771-72 | 25 Khara . | 36 Subhakṛit . | 4 Āshādha . |
| 4874 | 1695 | 1830 | 1179 | 947-48 | *1772-73 | 26 Nandana . | 37 Sōbhana . | .. |
| 4875 | 1696 | 1831 | 1180 | 948-49 | 1773-74 | 27 Vijaya . | 38 Krōdhin . | .. |
| 4876 | 1697 | 1832 | 1181 | 949-50 | 1774-75 | 28 Jaya . | 39 Viśvāvasu . | 2 Vaiśākha . |
| 4877 | 1698 | 1833 | 1182 | 950-51 | 1775-76 | 29 Manmatha . | 40 Parābhava . | .. |
| 4878 | 1699 | 1834 | 1183 | 951-52 | *1776-77 | 30 Durmakha . | 41 Plavanga . | 7 Āsvina . |
| 4879 | 1700 | 1835 | 1184 | 952-53 | 1777-78 | 31 Hēmalamba . | 42 Kīlaka . | .. |
| 4880 | 1701 | 1836 | 1185 | 953-54 | 1778-79 | 32 Vilamba . | 43 Saumya . | .. |
| 4881 | 1702 | 1837 | 1186 | 954-55 | 1779-80 | 33 Vikārin . | 44 Sādharāṇa . | 5 Śrāvāṇa . |
| 4882 | 1703 | 1838 | 1187 | 955-56 | *1780-81 | 34 Sārvarin . | 45 Virōdhakṛit . | .. |
| 4883 | 1704 | 1839 | 1188 | 956-57 | 1781-82 | 35 Plava . | 46 Paridhāvin . | .. |
| 4884 | 1705 | 1840 | 1189 | 957-58 | 1782-83 | 36 Subhakṛit . | 47 Pramādin . | 3 Jyēṣṭha . |
| 4885 | 1706 | 1841 | 1190 | 958-59 | 1783-84 | 37 Sōbhana . | 48 Ānanda . | .. |
| 4886 | 1707 | 1842 | 1191 | 959-60 | *1784-85 | 38 Krōdhin . | 49 Rākshasa . | .. |
| 4887 | 1708 | 1843 | 1192 | 960-61 | 1785-86 | 39 Viśvāvasu . | 50 Anala . | 1 Chaitra . |
| 4888 | 1709 | 1844 | 1193 | 961-62 | 1786-87 | 40 Parābhava . | 51 Pingala . | .. |
| 4889 | 1710 | 1845 | 1194 | 962-63 | 1787-88 | 41 Plavanga . | 52 Kalayukta . | 5 Ścārāṇa . |
| 4890 | 1711 | 1846 | 1195 | 963-64 | *1788-89 | 42 Kīlaka . | 53 Siddhārthin . | .. |
| 4891 | 1712 | 1847 | 1196 | 964-65 | 1789-90 | 43 Saumya . | 54 Randra . | .. |
| 4892 | 1713 | 1848 | 1197 | 965-66 | 1790-91 | 44 Sādharāṇa . | 55 Durmati . | 4 Āshādha . |
| 4893 | 1714 | 1849 | 1198 | 966-67 | 1791-92 | 45 Virōdhakṛit . | 56 Dundubhi . | .. |
| 4894 | 1715 | 1850 | 1199 | 967-68 | *1792-93 | 46 Paridhāvin . | 57 Rudhirōdgārin . | .. |
| 4895 | 1716 | 1851 | 1200 | 968-69 | 1793-94 | 47 Pramādin . | 58 Raktāksha . | 2 Vaiśākha . |
| 4896 | 1717 | 1852 | 1201 | 969-70 | 1794-95 | 48 Ānanda . | 59 Krōdhana . | .. |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 9 Apr. (99) | 2 Mon. . | 21 15 0 | 28 Mar. (87) | 4 Wed. | 252-4642 | 795-9569 | 242-1760 | 4872 | |
| 10 Apr. (100) | 4 Wed. . | 3 27 30 | 17 Mar. (76) | 1 Sun. . | 128-1476 | 643-1917 | 211-3522 | 4873 | |
| 9 Apr. (100) | 5 Thur. | 9 40 0 | 4 Apr. (95) | 0 Sat. . | 162-7872 | 579-1752 | 262-6618 | 4874 | |
| 9 Apr. (99) | 6 Fri. . | 15 52 30 | 24 Mar. (83) | 4 Wed. . | 38-4706 | 426-4100 | 231-8380 | 4875 | |
| 9 Apr. (99) | 0 Sat. . | 22 5 0 | 13 Mar. (72) | 1 Sun. . | 9914-1539 | 273-6448 | 201-0141 | 4876 | |
| 10 Apr. (100) | 2 Mon. . | 4 17 30 | 1 Apr. (91) | 0 Sat. . | 9948-7935 | 209-6283 | 252-3239 | 4877 | |
| 9 Apr. (100) | 3 Tues. . | 10 30 0 | 20 Mar. (80) | 4 Wed. . | 9824-4769 | 56-8631 | 221-5000 | 4878 | |
| 9 Apr. (99) | 4 Wed. . | 16 42 30 | 8 Apr. (98) | 3 Tues. . | 9859-1165 | 902-8466 | 272-8097 | 4879 | |
| 9 Apr. (99) | 5 Thur. | 22 55 0 | 29 Mar. (88) | 1 Sun. . | 73-4318 | 876-3731 | 244-7237 | 4880 | |
| 10 Apr. (100) | 0 Sat. . | 5 7 30 | 19 Mar. (78) | 6 Fri. . | 287-7470 | 759-8994 | 216-6375 | 4881 | |
| 9 Apr. (100) | 1 Sun. . | 11 20 0 | 5 Apr. (96) | 4 Wed. . | 9983-7548 | 659-5914 | 265-2095 | 4882 | |
| 9 Apr. (99) | 2 Mon. . | 17 32 30 | 26 Mar. (85) | 2 Mon. . | 198-0700 | 544-1178 | 237-1234 | 4883 | |
| 9 Apr. (99) | 3 Tues. . | 23 45 0 | 15 Mar. (74) | 6 Fri. . | 73-7534 | 390-3525 | 206-2906 | 4884 | |
| 10 Apr. (100) | 5 Thur. | 5 57 30 | 2 Apr. (92) | 4 Wed. . | 9769-7612 | 290-6445 | 254-8715 | 4885 | |
| 9 Apr. (100) | 6 Fri. . | 12 10 0 | 22 Mar. (82) | 2 Mon. . | 9984-0764 | 173-5709 | 226-7854 | 4886 | |
| 9 Apr. (99) | 0 Sat. . | 18 22 30 | 11 Mar. (70) | 6 Fri. . | 9859-7598 | 20-8058 | 195-9615 | 4887 | |
| 10 Apr. (100) | 2 Mon. . | 0 35 0 | 30 Mar. (89) | 5 Thur. | 9894-3994 | 956-7892 | 247-2713 | 4888 | |
| 10 Apr. (100) | 3 Tues. . | 6 47 30 | 20 Mar. (79) | 3 Tues. . | 105-7147 | 840-3157 | 219-1852 | 4889 | |
| 9 Apr. (100) | 4 Wed. . | 13 0 0 | 7 Apr. (98) | 2 Mon. . | 143-3443 | 776-2992 | 270-4950 | 4890 | |
| 9 Apr. (99) | 5 Thur. | 19 12 30 | 27 Mar. (80) | 6 Fri. . | 19-0377 | 625-5339 | 239-6511 | 4891 | |
| 10 Apr. (100) | 0 Sat. . | 1 25 0 | 16 Mar. (75) | 3 Tues. . | 9894-7211 | 470-7688 | 208-8473 | 4892 | |
| 10 Apr. (100) | 1 Sun. . | 7 37 30 | 4 Apr. (94) | 2 Mon. . | 9929-3907 | 406-7523 | 260-1569 | 4893 | |
| 9 Apr. (100) | 2 Mon. . | 13 50 0 | 23 Mar. (83) | 6 Fri. . | 9905-0441 | 253-9871 | 229-3332 | 4894 | |
| 9 Apr. (99) | 3 Tues. . | 20 2 30 | 13 Mar. (72) | 4 Wed. . | 19-3593 | 137-5135 | 201-2470 | 4895 | |
| 10 Apr. (100) | 5 Thur. | 2 15 0 | 1 Apr. (91) | 3 Tues. . | 53-9990 | 73-4971 | 252-5567 | 4896 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>lshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|--------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitradī Vikrama. | Māghī solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4897 | 1718 | 1853 | 1202 | 970-71 | 1795-96 | 49 Rākshasa . | 60 Kshaya . | 6 Bhādrapada . |
| 4898 | 1719 | 1854 | 1203 | 971-72 | *1796-97 | 50 Anala . | 1 Prabhava . | ... |
| 4899 | 1720 | 1855 | 1204 | 972-73 | 1797-98 | 51 Pingala . | 2 Vibhava . | ... |
| 4900 | 1721 | 1856 | 1205 | 973-74 | 1798-99 | 52 Kālayukta . | 3 Śukla . | 5 Śrāvaṇa . |
| 4901 | 1722 | 1857 | 1206 | 974-75 | 1799-1800 | 53 Siddhārthīn . | 4 Pramōda . | ... |
| 4902 | 1723 | 1858 | 1207 | 975-76 | 1800-01‡ | 54 Raudra . | 5 Prajāpati . | ... |
| 4903 | 1724 | 1859 | 1208 | 976-77 | 1801-02 | 55 Durmatī . | 6 Angīras . | 3 Jyēṣṭha . |
| 4904 | 1725 | 1860 | 1209 | 977-78 | 1802-03 | 56 Dundubhi . | 7 Śrīmukha . | ... |
| 4905 | 1726 | 1861 | 1210 | 978-79 | 1803-04 | 57 Rudhīrōdgārin . | 8 Bhāva . | ... |
| 4906 | 1727 | 1862 | 1211 | 979-80 | *1804-05 | 58 Raktāksha . | 9 Yuvan . | 1 Chaitra |
| 4907 | 1728 | 1863 | 1212 | 980-81 | 1805-06 | 59 Krōdhana . | 10 Dhātṛī . | ... |
| 4908 | 1729 | 1864 | 1213 | 981-82 | 1806-07 | 60 Kshaya . | 11 Jvara . | 5 Śrāvaṇa . |
| 4909 | 1730 | 1865 | 1214 | 982-83 | 1807-08 | 1 Prabhava . | 12 Bahudhānya . | ... |
| 4910 | 1731 | 1866 | 1215 | 983-84 | *1808-09 | 2 Vibhava . | 13 Pramāthīn . | ... |
| 4911 | 1732 | 1867 | 1216 | 984-85 | 1809-10 | 3 Śukla . | 14 Vikrama . | 4 Āshāḍha . |
| 4912 | 1733 | 1868 | 1217 | 985-86 | 1810-11 | 4 Pramōda . | 15 Vṛisha . | ... |
| 4913 | 1734 | 1869 | 1218 | 986-87 | 1811-12 | 5 Prajāpati . | 16 Chitrabhānu . | ... |
| 4914 | 1735 | 1870 | 1219 | 987-88 | *1812-13 | 6 Angīras . | 17 Subhānu . | 2 Vaiśākha . |
| 4915 | 1736 | 1871 | 1220 | 988-89 | 1813-14 | 7 Śrīmukha . | 18 Tāraṇa . | ... |
| 4916 | 1737 | 1872 | 1221 | 989-90 | 1814-15 | 8 Bhāva . | 19 Pārthiva . | 6 Bhādrapada . |
| 4917 | 1738 | 1873 | 1222 | 990-91 | 1815-16 | 9 Yuvan . | 20 Vyaya . | ... |
| 4918 | 1739 | 1874 | 1223 | 991-92 | *1816-17 | 10 Dhātṛī . | 21 Sarvajit . | ... |
| 4919 | 1740 | 1875 | 1224 | 992-93 | 1817-18 | 11 Jvara . | 22 Sarvadhārīn . | 5 Śrāvaṇa . |
| 4920 | 1741 | 1876 | 1225 | 993-94 | 1818-19 | 12 Bahudhānya . | 23 Virōdhīn . | ... |
| 4921 | 1742 | 1877 | 1226 | 994-95 | 1819-20 | 13 Pramāthīn . | 24 Vikṛita . | ... |

‡ The year A. D. 1800 was not a Leap-year.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | | |
| Day and month, A.D. | Week-day. | Time of true Māsha-saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 10 Apr. (100) | 6 Fri. . | 8 27 30 | 21 Mar. (80) | 0 Sat. . | 9029-6824 | 920-7319 | 221-7329 | 4897 | |
| 9 Apr. (100) | 0 Sat. . | 14 40 0 | 8 Apr. (99) | 6 Fri. . | 9964-3220 | 856-7153 | 273-0426 | 4898 | |
| 9 Apr. (99) | 1 Sun. . | 20 52 30 | 29 Mar. (88) | 4 Wed. . | 178-6372 | 740-2418 | 244-9565 | 4899 | |
| 10 Apr. (100) | 3 Tues. . | 3 5 0 | 18 Mar. (77) | 1 Sun. . | 54-3206 | 587-4766 | 214-1326 | 4900 | |
| 10 Apr. (100) | 4 Wed. . | 9 17 30 | 6 Apr. (96) | 0 Sat. . | 88-9603 | 522-4602 | 265-4424 | 4901 | |
| 10 Apr. (100) | 5 Thur. . | 15 30 0 | 26 Mar. (85) | 4 Wed. . | 9064-6436 | 370-6950 | 234-6186 | 4902 | |
| 10 Apr. (100) | 6 Fri. . | 21 42 30 | 15 Mar. (74) | 1 Sun. . | 9840-3270 | 217-9297 | 203-7948 | 4903 | |
| 11 Apr. (101) | 1 Sun. . | 3 55 0 | 3 Apr. (93) | 0 Sat. . | 9874-9667 | 153-9133 | 255-1044 | 4904 | |
| 11 Apr. (101) | 2 Mon. . | 10 7 30 | 24 Mar. (83) | 5 Thur. . | 89-2819 | 37-4397 | 227-0184 | 4905 | |
| 10 Apr. (101) | 3 Tues. . | 16 20 0 | 12 Mar. (72) | 2 Mon. . | 9964-9653 | 884-6745 | 196-1945 | 4906 | |
| 10 Apr. (100) | 4 Wed. . | 22 32 30 | 31 Mar. (90) | 1 Sun. . | 9999-7049 | 820-6580 | 247-5043 | 4907 | |
| 11 Apr. (101) | 6 Fri. . | 4 45 0 | 21 Mar. (80) | 6 Fri. . | 213-9202 | 704-1845 | 219-4182 | 4908 | |
| 11 Apr. (101) | 0 Sat. . | 10 57 30 | 9 Apr. (99) | 5 Thur. . | 248-5598 | 640-1680 | 270-7280 | 4909 | |
| 10 Apr. (101) | 1 Sun. . | 17 10 0 | 28 Mar. (88) | 2 Mon. . | 124-2432 | 487-4027 | 239-9041 | 4910 | |
| 10 Apr. (100) | 2 Mon. . | 23 22 30 | 17 Mar. (76) | 6 Fri. . | 9999-9266 | 334-6376 | 209-0802 | 4911 | |
| 11 Apr. (101) | 4 Wed. . | 5 35 0 | 5 Apr. (95) | 5 Thur. . | 34-5662 | 270-6211 | 260-3899 | 4912 | |
| 11 Apr. (101) | 5 Thur. . | 11 47 30 | 25 Mar. (84) | 2 Mon. . | 9910-2496 | 117-8558 | 229-5661 | 4913 | |
| 10 Apr. (101) | 6 Fri. . | 18 0 0 | 14 Mar. (74) | 0 Sat. . | 124-5648 | 1-3823 | 201-4800 | 4914 | |
| 11 Apr. (101) | 1 Sun. . | 0 12 30 | 2 Apr. (92) | 6 Fri. . | 159-2044 | 937-3658 | 252-7898 | 4915 | |
| 11 Apr. (101) | 2 Mon. . | 6 25 0 | 22 Mar. (81) | 3 Tues. . | 34-8878 | 784-7007 | 221-9659 | 4916 | |
| 11 Apr. (101) | 3 Tues. . | 12 37 30 | 10 Apr. (100) | 2 Mon. . | 69-5275 | 720-5841 | 273-2755 | 4917 | |
| 10 Apr. (101) | 4 Wed. . | 18 50 0 | 29 Mar. (89) | 6 Fri. . | 9945-2109 | 566-8190 | 242-4517 | 4918 | |
| 11 Apr. (101) | 6 Fri. . | 1 2 30 | 18 Mar. (77) | 3 Tues. . | 9820-8942 | 415-0538 | 211-3279 | 4919 | |
| 11 Apr. (101) | 0 Sat. . | 7 15 0 | 6 Apr. (96) | 2 Mon. . | 9855-5338 | 351-0372 | 262-0376 | 4920 | |
| 11 Apr. (101) | 1 Sun. . | 13 27 30 | 26 Mar. (85) | 6 Fri. . | 9731-2172 | 190-2721 | 232-1138 | 4921 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true) |
|------------------|-------|--------------------|---------------------------------|----------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikramā. | Māśādi solar year in Bengal. | Kollam. | A.D. | Jovian Sāmvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4922 | 1743 | 1878 | 1227 | 995-96 | *1820-21 | 14 Vikrama . | 25 Khara . | 3 Jyēṣṭha . |
| 4923 | 1744 | 1879 | 1228 | 996-97 | 1821-22 | 15 Vṛ̥ṣha . | 26 Nandana . | ... |
| 4924 | 1745 | 1880 | 1229 | 997-98 | 1822-23 | 16 Chitrabhānu . | 27 Vijaya . | { 7 Āśvina { 10 Pausa (Ksh) |
| 4925 | 1746 | 1881 | 1230 | 998-99 | 1823-24 | 17 Subhānu . | 28 Jaya . | 1 Chaitra . |
| 4926 | 1747 | 1882 | 1231 | 999-1000 | *1824-25 | 18 Tāraṇa . | 29 Manmatha . | ... |
| 4927 | 1748 | 1883 | 1232 | 1000-01 | 1825-26 | 19 Pārthiva . | 30 Durmukha . | 5 Śrāvapa . |
| 4928 | 1749 | 1884 | 1233 | 1001-02 | 1826-27 | 20 Vyaya . | 31 Hēmalamba . | ... |
| 4929 | 1750 | 1885 | 1234 | 1002-03 | 1827-28 | 21 Sarvajit . | 32 Vilamba . | ... |
| 4930 | 1751 | 1886 | 1235 | 1003-04 | *1828-29 | 22 Sarvadhārin . | 33 Vikārin . | 4 Āśāḍha . |
| 4931 | 1752 | 1887 | 1236 | 1004-05 | 1829-30 | 23 Virōdhin . | 34 Śārvarin . | ... |
| 4932 | 1753 | 1888 | 1237 | 1005-06 | 1830-31 | 24 Vikṛita . | 35 Plava . | ... |
| 4933 | 1754 | 1889 | 1238 | 1006-07 | 1831-32 | 25 Khara . | 36 Śubhakṛit . | 2 Vaiśākha . |
| 4934 | 1755 | 1890 | 1239 | 1007-08 | *1832-33 | 26 Nandana . | 37 Śōbhana . | ... |
| 4935 | 1756 | 1891 | 1240 | 1008-09 | 1833-34 | 27 Vijaya . | 38 Krōḍhin . | 6 Bhādrapada . |
| 4936 | 1757 | 1892 | 1241 | 1009-10 | 1834-35 | 28 Jaya . | 39 Viśvāvasu . | ... |
| 4937 | 1758 | 1893 | 1242 | 1010-11 | 1835-36 | 29 Manmatha . | 40 Parābhava . | ... |
| 4938 | 1759 | 1894 | 1243 | 1011-12 | *1836-37 | 30 Durmukha . | 41 Plavaṅga . | 4 Āśāḍha . |
| 4939 | 1760 | 1895 | 1244 | 1012-13 | 1837-38 | 31 Hēmalamba . | 42 Kilaka . | ... |
| 4940 | 1761 | 1896 | 1245 | 1013-14 | 1838-39 | 32 Vilamba . | 43 Saumya . | ... |
| 4941 | 1762 | 1897 | 1246 | 1014-15 | 1839-40 | 33 Vikārin . | 44 Sādhāraṇa . | 3 Jyēṣṭha . |
| 4942 | 1763 | 1898 | 1247 | 1015-16 | *1840-41 | 34 Śārvarin . | 45 Virōdhakṛit . | ... |
| 4943 | 1764 | 1899 | 1248 | 1016-17 | 1841-42 | 35 Plava . | 46 Paridhāvin . | { 7 Āśvina { 11 Māgha (Ksh) |
| 4944 | 1765 | 1900 | 1249 | 1017-18 | 1842-43 | 36 Śubhakṛit . | 47 Pramādin† . | 1 Chaitra . |
| 4945 | 1766 | 1901 | 1250 | 1018-19 | 1843-44 | 37 Śōbhana . | 49 Rabāḥana . | ... |
| 4946 | 1767 | 1902 | 1251 | 1019-20 | *1844-45 | 38 Krōḍhin . | 50 Anala . | 5 Śrāvapa . |

† 45 Ānanda was suppressed in the North.

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha saṁkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 10 Apr. (101) | 2 Mon. | 19 40 0 | 15 Mar. (75) | 4 Wed. | 9945-5324 | 81-7985 | 264-0277 | 4922 |
| 11 Apr. (101) | 4 Wed. | 1 52 30 | 3 Apr. (93) | 3 Tues. | 9980-1723 | 17-7821 | 255-3373 | 4923 |
| 11 Apr. (101) | 5 Thur. | 8 5 0 | 24 Mar. (83) | 1 Sun. | 194-4873 | 901-3084 | 227-2513 | 4924 |
| 11 Apr. (101) | 6 Fri. | 14 17 30 | 13 Mar. (72) | 5 Thur. | 70-1767 | 748-5433 | 196-4274 | 4925 |
| 10 Apr. (101) | 0 Sat. | 20 30 0 | 31 Mar. (91) | 4 Wed. | 104-8103 | 684-5268 | 247-7372 | 4926 |
| 11 Apr. (101) | 2 Mon. | 2 42 30 | 20 Mar. (79) | 1 Sun. | 9980-4937 | 531-7615 | 216-0133 | 4927 |
| 11 Apr. (101) | 3 Tues. | 8 55 0 | 8 Apr. (98) | 0 Sat. | 15-1333 | 467-7451 | 268-2231 | 4928 |
| 11 Apr. (101) | 4 Wed. | 15 7 30 | 28 Mar. (87) | 4 Wed. | 9890-8167 | 314-9769 | 237-3902 | 4929 |
| 10 Apr. (101) | 5 Thur. | 21 20 0 | 16 Mar. (76) | 1 Sun. | 9766-5001 | 162-2147 | 206-5753 | 4930 |
| 11 Apr. (101) | 0 Sat. | 3 32 30 | 4 Apr. (94) | 0 Sat. | 9801-1397 | 98-1982 | 257-8848 | 4931 |
| 11 Apr. (101) | 1 Sun. | 9 45 0 | 25 Mar. (84) | 5 Thur. | 15-4530 | 981-7246 | 229-7990 | 4932 |
| 11 Apr. (101) | 2 Mon. | 15 57 30 | 15 Mar. (74) | 3 Tues. | 229-7702 | 865-2510 | 201-7129 | 4933 |
| 10 Apr. (101) | 3 Tues. | 22 10 0 | 2 Apr. (93) | 2 Mon. | 264-4099 | 801-2346 | 253-0226 | 4934 |
| 11 Apr. (101) | 5 Thur. | 4 22 30 | 22 Mar. (81) | 6 Fri. | 140-0933 | 648-4694 | 222-1988 | 4935 |
| 11 Apr. (101) | 6 Fri. | 10 35 0 | 10 Apr. (100) | 5 Thur. | 174-7329 | 584-4529 | 273-5084 | 4936 |
| 11 Apr. (101) | 0 Sat. | 16 47 30 | 30 Mar. (89) | 2 Mon. | 50-4163 | 431-6877 | 242-6846 | 4937 |
| 10 Apr. (101) | 1 Sun. | 23 0 0 | 18 Mar. (78) | 6 Fri. | 9926-0997 | 279-9225 | 211-8608 | 4938 |
| 11 Apr. (101) | 3 Tues. | 5 12 30 | 6 Apr. (96) | 5 Thur. | 9960-7393 | 214-9060 | 263-1705 | 4939 |
| 11 Apr. (101) | 4 Wed. | 11 25 0 | 26 Mar. (85) | 2 Mon. | 9836-4227 | 62-1408 | 232-3467 | 4940 |
| 11 Apr. (101) | 5 Thur. | 17 37 30 | 16 Mar. (75) | 0 Sat. | 50-7379 | 945-6672 | 204-2606 | 4941 |
| 10 Apr. (101) | 6 Fri. | 23 50 0 | 3 Apr. (94) | 6 Fri. | 85-3775 | 881-6508 | 255-5703 | 4942 |
| 11 Apr. (101) | 1 Sun. | 6 2 30 | 24 Mar. (83) | 4 Wed. | 229-6928 | 765-1772 | 327-4342 | 4943 |
| 11 Apr. (101) | 2 Mon. | 12 15 0 | 13 Mar. (72) | 1 Sun. | 175-3762 | 612-4120 | 196-6603 | 4944 |
| 11 Apr. (101) | 3 Tues. | 18 27 30 | 1 Apr. (91) | 0 Sat. | 210-0338 | 548-3955 | 247-9701 | 4945 |
| 11 Apr. (102) | 5 Thur. | 0 40 0 | 20 Mar. (80) | 4 Wed. | 85-6992 | 395-6303 | 217-1463 | 4946 |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|-----------------------------|---------|----------|---------------------|---------------------------|--|
| Kali. | Śaka. | Chaitradī Vikrama. | Māhāśāla year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4947 | 1768 | 1903 | 1252 | 1020-21 | 1845-46 | 39 Viśvāvasu . | 51 <i>Pīngala</i> . | ... |
| 4948 | 1769 | 1904 | 1253 | 1021-22 | 1846-47 | 40 Parābhava . | 52 <i>Kālayukta</i> . | ... |
| 4949 | 1770 | 1905 | 1254 | 1022-23 | 1847-48 | 41 Plavaṅga . | 53 <i>Siddhārtha</i> . | 3 Jyēṣṭha . |
| 4950 | 1771 | 1906 | 1255 | 1023-24 | *1848-49 | 42 Kīlaka . | 54 <i>Raudra</i> . | ... |
| 4951 | 1772 | 1907 | 1256 | 1024-25 | 1849-50 | 43 Saumya . | 55 <i>Durmātī</i> . | ... |
| 4952 | 1773 | 1908 | 1257 | 1025-26 | 1850-51 | 44 Sādhārāṇa . | 56 <i>Dundubhi</i> . | 2 Vaiśākha . |
| 4953 | 1774 | 1909 | 1258 | 1026-27 | 1851-52 | 45 Virōdhakṛit . | 57 <i>Rudhīrōdgārīn</i> . | ... |
| 4954 | 1775 | 1910 | 1259 | 1027-28 | *1852-53 | 46 Paridhāvin . | 58 <i>Raktāksha</i> . | 6 Bhādrapada . |
| 4955 | 1776 | 1911 | 1260 | 1028-29 | 1853-54 | 47 Pramādin . | 59 <i>Krīdhana</i> . | ... |
| 4956 | 1777 | 1912 | 1261 | 1029-30 | 1854-55 | 48 Ānanda . | 60 <i>Kshaya</i> . | ... |
| 4957 | 1778 | 1913 | 1262 | 1030-31 | 1855-56 | 49 Rākshasa . | 1 <i>Prabhava</i> . | 4 Āśāḍha . |
| 4958 | 1779 | 1914 | 1263 | 1031-32 | *1856-57 | 50 Anala . | 2 <i>Vībhava</i> . | ... |
| 4959 | 1780 | 1915 | 1264 | 1032-33 | 1857-58 | 51 Pīngala . | 3 Śukla . | ... |
| 4960 | 1781 | 1916 | 1265 | 1033-34 | 1858-59 | 52 Kālayukta . | 4 Pramōda . | 3 Jyēṣṭha . |
| 4961 | 1782 | 1917 | 1266 | 1034-35 | 1859-60 | 53 Siddhārtha . | 5 Prajāpati . | ... |
| 4962 | 1783 | 1918 | 1267 | 1035-36 | *1860-61 | 54 Raudra . | 6 Āṅgīras . | 7 Āśvina . |
| 4963 | 1784 | 1919 | 1268 | 1036-37 | 1861-62 | 55 Durmatī . | 7 Śrīmukha . | ... |
| 4964 | 1785 | 1920 | 1269 | 1037-38 | 1862-63 | 56 Dundubhi . | 8 Bhāva . | ... |
| 4965 | 1786 | 1921 | 1270 | 1038-39 | 1863-64 | 57 Rudhīrōdgārīn . | 9 Yuvan . | 5 Śrāvāṇa . |
| 4966 | 1787 | 1922 | 1271 | 1039-40 | *1864-65 | 58 Raktāksha . | 10 Dhātī . | ... |
| 4967 | 1788 | 1923 | 1272 | 1040-41 | 1865-66 | 59 Krōdhana . | 11 Īvara . | ... |
| 4968 | 1789 | 1924 | 1273 | 1041-42 | 1866-67 | 60 Kshaya . | 12 Bahudhānya . | 3 Jyēṣṭha . |
| 4969 | 1790 | 1925 | 1274 | 1042-43 | 1867-68 | 1 Prabhava . | 13 Pramāthin . | ... |
| 4970 | 1791 | 1926 | 1275 | 1043-44 | *1868-69 | 2 Vībhava . | 14 Vikrama . | ... |
| 4971 | 1792 | 1927 | 1276 | 1044-45 | 1869-70 | 3 Śukla . | 15 Vriha . | 2 Vaiśākha . |

LXI—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | | |
| Day and month. A.D. | Week-day. | Time of true Mēsha samkrānti. | Day and month. A.D. | Week-day. | a. | b. | c. | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 11 Apr. (101) | 6 Fri. | 6 52 30 | 7 Apr. (97) | 2 Mon. | 9781-7069 | 295-3222 | 265-7182 | 4947 | |
| 11 Apr. (101) | 0 Sat. | 13 5 0 | 28 Mar. (87) | 0 Sat. | 9996-0221 | 178-8486 | 237-6321 | 4948 | |
| 11 Apr. (101) | 1 Sun. | 19 17 30 | 17 Mar. (76) | 4 Wed. | 9871-7056 | 28-0835 | 206-8082 | 4949 | |
| 11 Apr. (102) | 3 Tues. | 1 30 0 | 4 Apr. (95) | 3 Tues. | 9906-3451 | 902-0670 | 258-1179 | 4950 | |
| 11 Apr. (101) | 4 Wed. | 7 42 30 | 25 Mar. (84) | 1 Sun. | 120-6004 | 845-5933 | 230-0319 | 4951 | |
| 11 Apr. (101) | 5 Thur. | 13 55 0 | 14 Mar. (73) | 5 Thur. | 9996-3438 | 692-8282 | 199-2080 | 4952 | |
| 11 Apr. (101) | 6 Fri. | 20 7 30 | 2 Apr. (92) | 4 Wed. | 30-9834 | 628-8117 | 249-5178 | 4953 | |
| 11 Apr. (102) | 1 Sun. | 2 20 0 | 21 Mar. (81) | 1 Sun. | 9906-6668 | 476-0465 | 219-6939 | 4954 | |
| 11 Apr. (101) | 2 Mon. | 8 32 30 | 9 Apr. (99) | 0 Sat. | 9941-3064 | 412-0390 | 271-0036 | 4955 | |
| 11 Apr. (101) | 3 Tues. | 14 45 0 | 29 Mar. (88) | 4 Wed. | 9816-9898 | 259-2645 | 240-1797 | 4956 | |
| 11 Apr. (101) | 4 Wed. | 20 57 30 | 19 Mar. (78) | 2 Mon. | 31-3051 | 142-7912 | 212-0937 | 4957 | |
| 11 Apr. (102) | 6 Fri. | 3 10 0 | 6 Apr. (97) | 1 Sun. | 65-9447 | 78-7747 | 263-4034 | 4958 | |
| 11 Apr. (101) | 0 Sat. | 9 22 30 | 26 Mar. (85) | 5 Thur. | 9941-5281 | 926-0096 | 232-5796 | 4959 | |
| 11 Apr. (101) | 1 Sun. | 15 35 0 | 16 Mar. (75) | 3 Tues. | 155-9433 | 809-5360 | 204-4935 | 4960 | |
| 11 Apr. (101) | 2 Mon. | 21 47 30 | 4 Apr. (94) | 2 Mon. | 190-5929 | 745-5193 | 255-8032 | 4961 | |
| 11 Apr. (102) | 4 Wed. | 4 0 0 | 23 Mar. (83) | 6 Fri. | 66-2663 | 592-7543 | 224-9793 | 4962 | |
| 11 Apr. (101) | 5 Thur. | 10 12 30 | 11 Apr. (101) | 5 Thur. | 100-9090 | 528-7379 | 276-2896 | 4963 | |
| 11 Apr. (101) | 6 Fri. | 16 25 0 | 31 Mar. (90) | 2 Mon. | 9976-5893 | 375-9726 | 245-4652 | 4964 | |
| 11 Apr. (101) | 0 Sat. | 22 37 30 | 20 Mar. (79) | 6 Fri. | 9852-2927 | 223-2074 | 214-6413 | 4965 | |
| 11 Apr. (102) | 2 Mon. | 4 50 0 | 7 Apr. (96) | 5 Thur. | 9886-9124 | 159-1010 | 265-9511 | 4966 | |
| 11 Apr. (101) | 3 Tues. | 11 2 30 | 28 Mar. (87) | 3 Tues. | 101-2276 | 42-7174 | 237-8650 | 4967 | |
| 11 Apr. (101) | 4 Wed. | 17 15 0 | 17 Mar. (76) | 0 Sat. | 9976-9110 | 889-9522 | 207-0411 | 4968 | |
| 11 Apr. (101) | 5 Thur. | 23 27 30 | 5 Apr. (95) | 6 Fri. | 11-5506 | 825-9357 | 258-9508 | 4969 | |
| 11 Apr. (102) | 0 Sat. | 5 40 0 | 25 Mar. (85) | 4 Wed. | 225-8659 | 709-4621 | 230-2648 | 4970 | |
| 11 Apr. (101) | 1 Sun. | 11 52 30 | 14 Mar. (73) | 1 Sun. | 101-5493 | 558-6969 | 199-4409 | 4971 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | INTERCALATED (<i>adhika</i>) and SUPPRESSED (<i>kshaya</i>) LUNAR MONTHS (true). |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrāñi Vikrama. | Māghāñi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 |
| 4972 | 1793 | 1928 | 1277 | 1045-46 | 1870-71 | 4 Pramōda . | 16 Chitrabhānu . | ... |
| 4973 | 1794 | 1929 | 1278 | 1046-47 | 1871-72 | 5 Prajāpati . | 17 Subhānu . | 6 Bhādrapada . |
| 4974 | 1795 | 1930 | 1279 | 1047-48 | *1872-73 | 6 Aṅgira . | 18 Tāra . | ... |
| 4975 | 1796 | 1931 | 1280 | 1048-49 | 1873-74 | 7 Śrīmukha . | 19 Pārthiva . | ... |
| 4976 | 1797 | 1932 | 1281 | 1049-50 | 1874-75 | 8 Bhāva . | 20 Vyaya . | 4 Āshāḍha . |
| 4977 | 1798 | 1933 | 1282 | 1050-51 | 1875-76 | 9 Yuvan . | 21 Sarvajit . | ... |
| 4978 | 1799 | 1934 | 1283 | 1051-52 | *1876-77 | 10 Dhātṛi . | 22 Sarvadhārin . | ... |
| 4979 | 1800 | 1935 | 1284 | 1052-53 | 1877-78 | 11 Iṅvara . | 23 Virōdhin . | 3 Jyēsthā . |
| 4980 | 1801 | 1936 | 1285 | 1053-54 | 1878-79 | 12 Bahudhānya . | 24 Vikṛita . | ... |
| 4981 | 1802 | 1937 | 1286 | 1054-55 | 1879-80 | 13 Pramāthīn . | 25 Khara . | 7 Āvina . |
| 4982 | 1803 | 1938 | 1287 | 1055-56 | *1880-81 | 14 Vikrama . | 26 Nandana . | ... |
| 4983 | 1804 | 1939 | 1288 | 1056-57 | 1881-82 | 15 Vriha . | 27 Vijaya . | ... |
| 4984 | 1805 | 1940 | 1289 | 1057-58 | 1882-83 | 16 Chitrabhānu . | 28 Jaya . | 5 Śrāva . |
| 4985 | 1806 | 1941 | 1290 | 1058-59 | 1883-84 | 17 Subhānu . | 29 Manmatha . | ... |
| 4986 | 1807 | 1942 | 1291 | 1059-60 | *1884-85 | 18 Tāra . | 30 Durmukha . | ... |
| 4987 | 1808 | 1943 | 1292 | 1060-61 | 1885-86 | 19 Pārthiva . | 31 Hāmālamba . | 3 Jyēsthā . |
| 4988 | 1809 | 1944 | 1293 | 1061-62 | 1886-87 | 20 Vyaya . | 32 Vilamba . | ... |
| 4989 | 1810 | 1945 | 1294 | 1062-63 | 1887-88 | 21 Sarvajit . | 33 Vikārin . | ... |
| 4990 | 1811 | 1946 | 1295 | 1063-64 | *1888-89 | 22 Sarvadhārin . | 34 Śārvarin . | 1 Chaitra . |
| 4991 | 1812 | 1947 | 1296 | 1064-65 | 1889-90 | 23 Virōdhin . | 35 Plava . | ... |
| 4992 | 1813 | 1948 | 1297 | 1065-66 | 1890-91 | 24 Vikṛita . | 36 Śubhakṛit . | 6 Bhādrapada . |
| 4993 | 1814 | 1949 | 1298 | 1066-67 | 1891-92 | 25 Khara . | 37 Śūbhana . | ... |
| 4994 | 1815 | 1950 | 1299 | 1067-68 | *1892-93 | 26 Nandana . | 38 Krōdhin . | ... |
| 4995 | 1816 | 1951 | 1300 | 1068-69 | 1893-94 | 27 Vijaya . | 39 Viskāvan . | 4 Āshāḍha . |
| 4996 | 1817 | 1952 | 1301 | 1069-70 | 1894-95 | 28 Jaya . | 40 Parābhava . | ... |
| 4997 | 1818 | 1953 | 1302 | 1070-71 | 1895-96 | 29 Manmatha . | 41 Plavaṅga . | ... |
| 4998 | 1819 | 1954 | 1303 | 1071-72 | *1896-97 | 30 Durmukha . | 42 Kīlaka . | 3 Jyēsthā . |
| 4999 | 1820 | 1955 | 1304 | 1072-73 | 1897-98 | 31 Hāmālamba . | 43 Saumya . | ... |
| 5000 | 1821 | 1956 | 1305 | 1073-74 | 1898-99 | 32 Vilamba . | 44 Śūdhāra . | 7 Āvina . |
| 5001 | 1822 | 1957 | 1306 | 1074-75 | 1899-1900 | 33 Vikārin . | 45 Virōdhakṛit . | ... |
| 5002 | 1823 | 1958 | 1307 | 1075-76 | ‡1900-01 | 34 Śārvarin . | 46 Paridhāvin . | ... |

‡ The year 1900 A.D. was not a Leap-year.

LXI—Concl'd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF DAY ON WHICH CHAITRA ŚUKLA 1 ENDED). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha samkrānti. | Day and month, A.D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 11 Apr. (101) | 2 Mon. | 18 5 0 | 2 Apr. (92) | 0 Sat. | 136-1889 | 492-6804 | 250-7517 | 4972 |
| 12 Apr. (102) | 4 Wed. | 0 17 30 | 22 Mar. (81) | 4 Wed. | 11-8733 | 339-9153 | 219-9268 | 4973 |
| 11 Apr. (102) | 5 Thur. | 6 30 0 | 9 Apr. (100) | 3 Tues. | 46-5119 | 275-8088 | 271-2365 | 4974 |
| 11 Apr. (101) | 6 Fri. | 12 42 30 | 29 Mar. (88) | 0 Sat. | 9922-1953 | 123-1335 | 240-4126 | 4975 |
| 11 Apr. (101) | 0 Sat. | 18 55 0 | 19 Mar. (78) | 5 Thur. | 136-5106 | 6-6600 | 212-3296 | 4976 |
| 12 Apr. (102) | 2 Mon. | 1 7 30 | 7 Apr. (97) | 4 Wed. | 171-1501 | 942-6435 | 263-6363 | 4977 |
| 11 Apr. (102) | 3 Tues. | 7 20 0 | 26 Mar. (86) | 1 Sun. | 46-8335 | 780-8783 | 232-8125 | 4978 |
| 11 Apr. (101) | 4 Wed. | 13 32 30 | 16 Mar. (75) | 6 Fri. | 261-1487 | 673-4047 | 204-8264 | 4979 |
| 11 Apr. (101) | 5 Thur. | 19 45 0 | 3 Apr. (93) | 4 Wed. | 9957-1566 | 573-0967 | 253-0983 | 4980 |
| 12 Apr. (102) | 0 Sat. | 1 57 30 | 23 Mar. (82) | 1 Sun. | 9832-8399 | 420-3314 | 222-4744 | 4981 |
| 11 Apr. (102) | 1 Sun. | 8 10 0 | 10 Apr. (101) | 0 Sat. | 9867-4795 | 356-3149 | 273-7841 | 4982 |
| 11 Apr. (101) | 2 Mon. | 14 22 30 | 30 Mar. (89) | 4 Wed. | 9743-1629 | 203-5498 | 242-9603 | 4983 |
| 11 Apr. (101) | 3 Tues. | 20 35 0 | 20 Mar. (79) | 2 Mon. | 9957-4781 | 87-0761 | 214-8742 | 4984 |
| 12 Apr. (102) | 5 Thur. | 2 47 30 | 8 Apr. (98) | 1 Sun. | 9902-1178 | 23-0597 | 266-1840 | 4985 |
| 11 Apr. (102) | 6 Fri. | 9 0 0 | 28 Mar. (88) | 6 Fri. | 206-4330 | 906-3861 | 238-0978 | 4986 |
| 11 Apr. (101) | 0 Sat. | 15 12 30 | 17 Mar. (76) | 3 Tues. | 82-1164 | 753-8210 | 207-2730 | 4987 |
| 11 Apr. (101) | 1 Sun. | 21 25 0 | 5 Apr. (95) | 2 Mon. | 116-7560 | 689-8044 | 258-5837 | 4988 |
| 12 Apr. (102) | 3 Tues. | 3 37 30 | 25 Mar. (84) | 6 Fri. | 9902-4394 | 537-0392 | 227-7599 | 4989 |
| 11 Apr. (102) | 4 Wed. | 9 50 0 | 13 Mar. (73) | 3 Tues. | 9868-1228 | 384-2741 | 196-9360 | 4990 |
| 11 Apr. (101) | 5 Thur. | 16 2 30 | 1 Apr. (91) | 2 Mon. | 9902-7624 | 330-2575 | 248-2457 | 4991 |
| 11 Apr. (101) | 6 Fri. | 22 15 0 | 21 Mar. (80) | 6 Fri. | 9778-4458 | 167-4924 | 217-4219 | 4992 |
| 12 Apr. (102) | 1 Sun. | 4 27 30 | 9 Apr. (99) | 5 Thur. | 9813-0834 | 103-4759 | 263-7316 | 4993 |
| 11 Apr. (102) | 2 Mon. | 10 40 0 | 29 Mar. (89) | 3 Tues. | 27-4007 | 987-0023 | 240-6455 | 4994 |
| 11 Apr. (101) | 3 Tues. | 16 52 30 | 19 Mar. (78) | 1 Sun. | 241-7190 | 970-5287 | 212-5595 | 4995 |
| 11 Apr. (101) | 4 Wed. | 23 5 0 | 7 Apr. (97) | 0 Sat. | 276-3536 | 806-5123 | 263-8692 | 4996 |
| 12 Apr. (102) | 6 Fri. | 5 17 30 | 27 Mar. (86) | 4 Wed. | 152-0390 | 653-7471 | 233-0454 | 4997 |
| 11 Apr. (102) | 0 Sat. | 11 30 0 | 15 Mar. (75) | 1 Sun. | 27-7223 | 500-9718 | 202-2215 | 4998 |
| 11 Apr. (101) | 1 Sun. | 17 42 30 | 3 Apr. (93) | 0 Sat. | 62-3620 | 436-9653 | 253-5311 | 4999 |
| 11 Apr. (101) | 2 Mon. | 23 55 0 | 23 Mar. (82) | 4 Wed. | 9938-0453 | 284-2062 | 225-7073 | 5000 |
| 12 Apr. (102) | 4 Wed. | 6 7 30 | 11 Apr. (101) | 3 Tues. | 9971-6859 | 220-1837 | 274-0170 | 5001 |
| 12 Apr. (102) | 5 Thur. | 12 20 0 | 31 Mar. (90) | 0 Sat. | 9848-3683 | 67-4185 | 243-1932 | 5002 |

TABLE LXII.

NAMES OF MONTHS AND NAKSHATRAS.

(Corresponding to Table II, Part II, "Indian Calendar.")

| LUNAR MONTHS. | | | SOLAR MONTHS. | | | | | |
|---------------|--------------|-------------|---------------|-------------|--------------|--------------------------|-----------------|--------------|
| No. | Usual name. | Tamil name. | No. | Sign name. | Bengal name. | Tamil name. | Malayālam name. | Orissa name. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Chaitra . | Paggu . | 1 | Mēsha . | Vaiśākha . | Chittirai . | Mēdam . | Baiśāk. |
| 2 | Vaiśākha . | Bēla . | 2 | Vriśhabha . | Jyēsthā . | Vaikāśi ¹ . | Edavam . | Joisthō, |
| 3 | Jyēsthā . | Kārtela . | 3 | Mithuna . | Āshāḍha . | Āni . | Mīdunam . | Āssar. |
| 4 | Āshāḍha . | Āti . | 4 | Karka . | Śrāvapa . | Ādi . | Karkadagam . | Sāwun. |
| 5 | Śrāvapa . | Sōna . | 5 | Simha . | Bhādrapada . | Āvani . | Chīgām . | Bhādro. |
| 6 | Bhādrapada . | Nirpāla . | 6 | Kanyā . | Āśvina . | Purattādi ² . | Kanni . | Āssin. |
| 7 | Āśvina . | Bontolu . | 7 | Tulā . | Kārttika . | Aippaśi ³ . | Tujām . | Kārttik. |
| 8 | Kārttika . | Jārde . | 8 | Vriśchika . | Mārgaśira . | Kārttigai . | Vriśchikem . | Āghrān. |
| 9 | Mārgaśira . | Perārde . | 9 | Dhanus . | Pauṣha . | Mārgaī . | Dhanu . | Paus. |
| 10 | Pauṣha . | Pōntolu . | 10 | Makara . | Māgha . | Tai . | Makaram . | Māgha. |
| 11 | Māgha . | Māyi . | 11 | Kumbha . | Phālguna . | Māsi . | Kumbham . | Palgun. |
| 12 | Phālguna . | Suggi . | 12 | Mina . | Chaitra . | Paṅguni . | Minam . | Choitro. |

¹ or Vaiyāśi.² or Purattāsi.³ or Ārppaśi, or Appiśi.NAKSHATRAS.¹

| No. | Name. | Tamil name. | Deity. | No. | Name. | Tamil name. | Deity. |
|-----|-------------------|------------------------|------------|-----|-----------------------------|---------------------|--------------|
| 1 | Āśvini . | Āsuvati . | Āśvin. | 15 | Svāti . | Sōdi . | Vāyu. |
| 2 | Bharani . | Bharani . | Yama. | 16 | Viśākhā . | Viśākam . | Indrāgn. |
| 3 | Kṛittikā . | Kiruttigai . | Agni. | 17 | Anurādhā . | Anusham, or Anilam. | Mitra. |
| 4 | Rohiṇi . | Rohini . | Prajāpati. | 18 | Jyēsthā . | Kēttai . | Indra. |
| 5 | Mṛgaśira . | Mirugusīram . | Soma. | 19 | Mūla . | Mūlam . | Nirriti. |
| 6 | Ārdrā . | Āndra, or Tiruvādirai. | Rudra. | 20 | Purva Ashādhā . | Pūriḍam . | Āpaḥ. |
| 7 | Punarvasu . | Punarpūsam . | Aditi. | 21 | Uttara Ashādhā . | Uttirāḍam . | Viśvadevab. |
| 8 | Pushya . | Pūsam . | Bṛhaspati. | | Abhijit . | ... | Brahma. |
| 9 | Āśleshā . | Āyilyam . | Sarpāb. | 22 | Śrāvapa . | Tiruvōnam . | Viṣṇu. |
| 10 | Maghā . | Magham . | Pitarāb. | 23 | Dhanishthā or Śravishthā . | Avittam . | Vasuvāb. |
| 11 | Pūrva-Phalguni . | Pūram . | Bhāga. | 24 | Śatabhishaj or Śatatārakā . | Sadayam . | Varuṇa. |
| 12 | Uttara Phalguni . | Uttiram . | Āryaman. | 25 | Pūrva Bhādrapadā . | Pūraṭṭādi . | Aja Ēkapād. |
| 13 | Hasta . | Hastam or Attam. | Savitri. | 26 | Uttara Bhādrapadā . | Uttirāṭṭādi . | Ahī Bodhnya. |
| 14 | Chitrā . | Chittirai . | Tvashtṛi. | 27 | Révatī . | Révati . | Pūshan. |

¹ Tamil names and those of Deities are borrowed from Dewan Bahadur L. D. Swamīkannu Pillai's "Indian Chronology."

TABLE LXIII A.

(Corresponding to Table III, Part I, "Indian Calendar.")

COLLECTIVE DURATION OF MEAN LUNAR MONTHS.

| LUNI-SOLAR YEAR (CHAITRĀDI). | | | | |
|------------------------------|-----------------------|---|----------------|--------|
| Serial number. | Name of month. | COLLECTIVE DURATION FROM BEGINNING OF YEAR TO END OF EACH MEAN LUNAR MONTH. | | |
| | | Exactly in Tithis. | In civil days. | |
| | | | Approximate. | Exact. |
| 1 | 2 | 3 | 3a | 3b |
| 1 | Chaitra . . . | 30 | 30 | 29-53 |
| 2 | Vaiśākha . . . | 60 | 59 | 59-06 |
| 3 | Jyēshṭha . . . | 90 | 89 | 88-59 |
| 4 | Āshāḍha . . . | 120 | 118 | 118-12 |
| 5 | Śrāvapa . . . | 150 | 148 | 147-65 |
| 6 | Bhādrapada . . . | 180 | 177 | 177-18 |
| 7 | Āsvina . . . | 210 | 207 | 206-71 |
| 8 | Kārttika . . . | 240 | 236 | 236-24 |
| 9 | Mārgaśīra . . . | 270 | 266 | 265-77 |
| 10 | Pausha . . . | 300 | 295 | 295-30 |
| 11 | Māgha . . . | 330 | 325 | 324-83 |
| 12 | Phālguna . . . | 360 | 354 | 354-36 |
| | In intercalary years. | 390 | 384 | 383-89 |

TABLE

DURATION AND COLLECTIVE DURATION OF TRUE SOLAR MONTHS, WITH INCREASE

The values are those

"W. D."—Week-day. "a" in 10,000ths

(This Table supersedes Table XVIII A "Indian

| Luni-solar month ending at the second of the two solar samkrāntis with which it is connected. | At the true solar samkrānti. | Collective duration in days, hours, etc., and collective increase of a, b, c from true Mēsha samkrānti to each true samkrānti. | | | | | | | |
|---|-------------------------------------|---|-------|----|----|-------|-----------|----------|----------|
| | | D. | W. D. | H. | M. | S. | a | b | c |
| 1 | 2 | 3 | | | | 4 | 5 | 6 | |
| 1. Chaitra | Mina S. (of previous year). | | | | | | | | |
| 2. Vaiśākha | Mēsha samkr. | 0 | (0) | 0 | 0 | 0 | 0 | 0 | |
| 3. Jyēṣṭha | Viśvabha samkr. | 30 | (2) | 22 | 11 | 6-99 | 471-9831 | 122-2961 | 84-6643 |
| 4. Āṣāḍha | Mithuna samkr. | 62 | (6) | 7 | 47 | 43-05 | 1105-1653 | 261-8682 | 170-6319 |
| 5. Śrāvapa | Karka samkr. | 93 | (2) | 22 | 22 | 0-37 | 1808-3520 | 408-9426 | 257-1654 |
| 6. Bhādrapada | Simha samkr. | 125 | (6) | 9 | 34 | 40-40 | 2464-1251 | 550-9358 | 343-3157 |
| 7. Āṣvina | Kanyā samkr. | 156 | (2) | 10 | 24 | 24-88 | 2973-4105 | 677-2297 | 428-2817 |
| 8. Kārttika | Tulā samkr. | 186 | (4) | 21 | 21 | 37-82 | 3286-9182 | 782-5419 | 511-6648 |
| 9. Margaśīrṣa | Vṛiśchika samkr. | 216 | (6) | 19 | 2 | 43-34 | 3413-2087 | 867-7898 | 593-5344 |
| 10. Pausa | Dhanu samkr. | 246 | (1) | 7 | 15 | 59-08 | 3405-9677 | 938-7268 | 674-3243 |
| 11. Māgha | Makara samkr. | 275 | (2) | 15 | 41 | 4-81 | 3345-0707 | 3-9135 | 754-6804 |
| 12. Phālguna | Kumbha samkr. | 305 | (4) | 2 | 39 | 12-57 | 3320-1612 | 72-9570 | 835-3275 |
| 1. Chaitra (of fol- lowing year) | Mina samkr. | 334 | (5) | 22 | 4 | 5-29 | 3414-4196 | 154-7719 | 916-9379 |
| | Mēsha samkr. (of following year) | 365 | (1) | 6 | 12 | 30-0 | 3688-2315 | 255-8299 | 1000-0 |

NOTE.

EXACT VALUE OF "c" AND OF "EQUATION c" AT THE
SEVERAL TRUE SAMKRĀNTIS IN EACH YEAR.

| Samkrānti. | c. | Eqn. c. |
|-----------------------------|----------|----------|
| 1. Mēsha samkr. | 277-4558 | 0-9119 |
| 2. Viśvabha samkr. | 362-1201 | 14-2168 |
| 3. Mithuna samkr. | 448-0877 | 40-5649 |
| 4. Karka samkr. | 534-6212 | 72-5193 |
| 5. Simha samkr. | 620-7715 | 100-7366 |
| 6. Kanyā samkr. | 705-7375 | 117-0626 |
| 7. Tulā samkr. | 789-1206 | 117-5601 |
| 8. Vṛiśchika samkr. | 870-9902 | 162-9215 |
| 9. Dhanu samkr. | 951-7801 | 77-4872 |
| 10. Makara samkr. | 32-1362 | 47-7147 |
| 11. Kumbha samkr. | 112-7833 | 20-8518 |
| 12. Mina samkr. | 194-3937 | 3-6236 |

LXIII B.

OF *a*, *b*, *c*, AT EACH SAMKRĀNTI BY THE FIRST ARYA-SIDDHĀNTA.

fixed by M. de Ries.

of circle; "*b*" and "*c*" in 1,000ths.

Chronography, p. 132) and "*Indian Calendar*," Table III, Part II.

| At true solar sam- krānti. | Length of month preceding each true samkrānti and increase of <i>a</i> , <i>b</i> , <i>c</i> , between each true samkrānti. | | | | | |
|--|--|------|----|----|-------|-----------|
| | D. | W-D. | H. | M. | S. | |
| 7 | 8 | | | | | 9 |
| | | | | | | 10 |
| | | | | | | 11 |
| Mēsha samkr. . . . | 0 | 0 | 0 | 0 | 0 | 0 |
| Vṛṣhabha samkr. . . | 30 | (2) | 22 | 11 | 6-00 | 471-9831 |
| Mithuna samkr. . . . | 31 | (3) | 9 | 36 | 36-06 | 633-1822 |
| Karka samkr. | 31 | (3) | 14 | 34 | 17-32 | 703-1867 |
| Simha samkr. | 31 | (3) | 11 | 12 | 40-02 | 655-7731 |
| Kanyā samkr. | 31 | (3) | 0 | 49 | 44-48 | 509-2854 |
| Tulā samkr. | 30 | (2) | 10 | 57 | 12-94 | 313-5077 |
| Vṛśchika samkr. . . . | 29 | (1) | 21 | 41 | 5-52 | 126-2905 |
| Dhanus samkr. | 29 | (1) | 12 | 13 | 15-74 | 9992-7590 |
| Makara samkr. | 29 | (1) | 8 | 25 | 5-73 | 9939-1030 |
| Kumbha samkr. | 29 | (1) | 10 | 58 | 7-76 | 9975-0905 |
| Mīna samkr. | 29 | (1) | 19 | 24 | 52-72 | 94-2584 |
| Mōsha samkr. (of follow- ing year). | 30 | (2) | 8 | 8 | 24-71 | 273-8110 |

TABLE LXIV.

INCREASE OF a , b , c IN DAYS OF 24 HOURS EACH BY THE FIRST ĀRYA SIDDHĀNTA WITH LALLA'S
RĪJĀ.

" a " in 10,000ths; " b " and " c " in 1,000ths of circle.

This Table corresponds to Table IV, "Indian Calendar."

| Increase in | a . | b . | c . |
|--------------------------------------|----------------|---------------|---------------|
| One day | 338-631873982 | 36-291623738 | 2-737786720 |
| One year of 365 days | 3600-634003430 | 246-442664370 | 999-291787800 |
| One year of 366 days | 3939-265877412 | 282-734288108 | 2-029573520 |
| One century of 36,525 days | 8529-197184659 | 551-557045243 | 997-623429986 |
| One century of 36,526 days | 8867-829058641 | 587-848668981 | 0-361215706 |

DAYS OF 24 HOURS EACH.

| No. | Week-day. | a | b . | c | No. | Week-day. | a . | b . | c . |
|-----|-----------|------------|-----------|---------|-----|-----------|------------|-----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 1 | 1 | 338-0310 | 36-2916 | 2-7378 | 31 | 3 | 497-5881 | 125-0103 | 84-8714 |
| 2 | 2 | 677-2637 | 72-5832 | 5-4756 | 32 | 4 | 836-2200 | 161-3320 | 87-6091 |
| 3 | 3 | 1015-8950 | 108-8749 | 8-2134 | 33 | 5 | 1174-8518 | 197-6236 | 90-3469 |
| 4 | 4 | 1354-5275 | 145-1665 | 10-9511 | 34 | 6 | 1513-4837 | 233-9152 | 93-0847 |
| 5 | 5 | 1693-1594 | 181-4581 | 13-6889 | 35 | 0 | 1852-1156 | 270-2068 | 95-8225 |
| 6 | 6 | 2031-7912 | 217-7497 | 16-4267 | 36 | 1 | 2190-7475 | 306-4985 | 98-5603 |
| 7 | 0 | 2370-4231 | 254-0414 | 19-1845 | 37 | 2 | 2529-3793 | 342-7901 | 101-2981 |
| 8 | 1 | 2709-0550 | 290-3330 | 21-9023 | 38 | 3 | 2868-0112 | 379-0817 | 104-0359 |
| 9 | 2 | 3047-6869 | 326-6246 | 24-6401 | 39 | 4 | 3206-6431 | 415-3733 | 106-7736 |
| 10 | 3 | 3386-3187 | 362-9162 | 27-3779 | 40 | 5 | 3545-2750 | 451-6649 | 109-5114 |
| 11 | 4 | 3724-9506 | 399-2079 | 30-1156 | 41 | 6 | 3883-9068 | 487-9566 | 112-2492 |
| 12 | 5 | 4063-5825 | 435-4995 | 32-8534 | 42 | 0 | 4222-5387 | 524-2482 | 114-9870 |
| 13 | 6 | 4402-2144 | 471-7911 | 35-5912 | 43 | 1 | 4561-1706 | 560-5398 | 117-7248 |
| 14 | 0 | 4740-8462 | 508-0827 | 38-3290 | 44 | 2 | 4899-8025 | 596-8314 | 120-4626 |
| 15 | 1 | 5079-4781 | 544-3744 | 41-0668 | 45 | 3 | 5238-4343 | 633-1231 | 123-2004 |
| 16 | 2 | 5418-1100 | 580-6660 | 43-8046 | 46 | 4 | 5577-0662 | 669-4147 | 125-9381 |
| 17 | 3 | 5756-7419 | 616-9576 | 46-5424 | 47 | 5 | 5915-6981 | 705-7063 | 128-6759 |
| 18 | 4 | 6095-3737 | 653-2492 | 49-2801 | 48 | 6 | 6254-3300 | 741-9979 | 131-4137 |
| 19 | 5 | 6434-0056 | 689-5409 | 52-0179 | 49 | 0 | 6592-9618 | 778-2896 | 134-1515 |
| 20 | 6 | 6772-6375 | 725-8325 | 54-7557 | 50 | 1 | 6931-5937 | 814-5812 | 136-8893 |
| 21 | 0 | 7111-2694 | 762-1241 | 57-4935 | 51 | 2 | 7270-2256 | 850-8728 | 139-6271 |
| 22 | 1 | 7449-9012 | 798-4157 | 60-2313 | 52 | 3 | 7608-8574 | 887-1644 | 142-3649 |
| 23 | 2 | 7788-5331 | 834-7073 | 62-9691 | 53 | 4 | 7947-4893 | 923-4561 | 145-1026 |
| 24 | 3 | 8127-1650 | 870-9990 | 65-7069 | 54 | 5 | 8286-1212 | 959-7477 | 147-8404 |
| 25 | 4 | 8465-7968 | 907-2906 | 68-4446 | 55 | 6 | 8624-7531 | 996-0393 | 150-5782 |
| 26 | 5 | 8804-4287 | 943-5822 | 71-1824 | 56 | 0 | 8963-3849 | 1032-3309 | 153-3160 |
| 27 | 6 | 9143-0606 | 979-8738 | 73-9202 | 57 | 1 | 9302-0168 | 1068-6225 | 156-0538 |
| 28 | 0 | 9481-6925 | 1016-1655 | 76-6580 | 58 | 2 | 9640-6487 | 1104-9142 | 158-7916 |
| 29 | 1 | 9820-3243 | 1052-4571 | 79-3958 | 59 | 3 | 9979-2806 | 1141-2058 | 161-5294 |
| 30 | 2 | 10158-9562 | 1088-7487 | 82-1336 | 60 | 4 | 10317-9124 | 1177-4974 | 164-2671 |

TABLE LXIV—Contd.

DAYS—Contd.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 61 | 5 | 656-5443 | 213-7890 | 167-6049 | 111 | 6 | 7588-1380 | 28-3702 | 303-8942 |
| 62 | 6 | 995-1762 | 250-0807 | 169-7427 | 112 | 0 | 7926-7699 | 64-6619 | 506-6320 |
| 63 | 0 | 1333-8081 | 286-3723 | 172-4805 | 113 | 1 | 8265-4618 | 100-9535 | 399-3655 |
| 64 | 1 | 1672-4399 | 322-6639 | 175-2183 | 114 | 2 | 8604-0336 | 137-2451 | 312-1076 |
| 65 | 2 | 2011-0718 | 358-9555 | 177-9561 | 115 | 3 | 8942-6655 | 173-5367 | 314-8454 |
| 66 | 3 | 2349-7037 | 395-2472 | 180-6939 | 116 | 4 | 9281-2974 | 209-8284 | 317-5831 |
| 67 | 4 | 2688-3356 | 431-5388 | 183-4316 | 117 | 5 | 9619-9293 | 246-1200 | 320-3209 |
| 68 | 5 | 3026-9674 | 467-8304 | 186-1694 | 118 | 6 | 9958-5611 | 282-4116 | 323-0587 |
| 69 | 6 | 3365-5993 | 504-1220 | 188-9072 | 119 | 0 | 297-1930 | 318-7032 | 325-7965 |
| 70 | 0 | 3704-2312 | 540-4137 | 191-6450 | 120 | 1 | 635-8249 | 354-9948 | 328-5343 |
| 71 | 1 | 4042-8631 | 576-7053 | 194-3828 | 121 | 2 | 974-4568 | 391-2865 | 331-2721 |
| 72 | 2 | 4381-4949 | 612-9969 | 197-1206 | 122 | 3 | 1313-0886 | 427-5781 | 334-0069 |
| 73 | 3 | 4720-1268 | 649-2885 | 199-8584 | 123 | 4 | 1651-7205 | 463-8097 | 336-7476 |
| 74 | 4 | 5058-7587 | 685-5801 | 202-5961 | 124 | 5 | 1990-3524 | 500-1613 | 339-4854 |
| 75 | 5 | 5397-3905 | 721-8718 | 205-3339 | 125 | 6 | 2328-9842 | 536-4530 | 342-2232 |
| 76 | 6 | 5736-0224 | 758-1634 | 208-0717 | 126 | 0 | 2667-6161 | 572-7446 | 344-9610 |
| 77 | 0 | 6074-6543 | 794-4550 | 210-8095 | 127 | 1 | 3006-2480 | 609-0362 | 347-6988 |
| 78 | 1 | 6413-2862 | 830-7467 | 213-5473 | 128 | 2 | 3344-8799 | 645-3278 | 350-4366 |
| 79 | 2 | 6751-6180 | 867-0383 | 216-2851 | 129 | 3 | 3683-5117 | 681-6195 | 353-1744 |
| 80 | 3 | 7090-5499 | 903-3299 | 219-0229 | 130 | 4 | 4022-1436 | 717-9111 | 355-9121 |
| 81 | 4 | 7429-1818 | 939-6215 | 221-7606 | 131 | 5 | 4360-7755 | 754-2027 | 358-0499 |
| 82 | 5 | 7767-8137 | 975-9131 | 224-4984 | 132 | 6 | 4699-4074 | 790-4943 | 361-3877 |
| 83 | 6 | 8106-4455 | 12-2048 | 227-2362 | 133 | 0 | 5038-0392 | 826-7860 | 364-1255 |
| 84 | 0 | 8445-0774 | 48-4964 | 229-9740 | 134 | 1 | 5376-6711 | 863-0776 | 366-8633 |
| 85 | 1 | 8783-7093 | 84-7880 | 232-7118 | 135 | 2 | 5715-3030 | 899-3692 | 369-6011 |
| 86 | 2 | 9122-3412 | 121-0706 | 235-4496 | 136 | 3 | 6053-9349 | 935-6608 | 372-3389 |
| 87 | 3 | 9460-9730 | 157-3713 | 238-1874 | 137 | 4 | 6392-5667 | 971-9525 | 375-0766 |
| 88 | 4 | 9799-6049 | 193-6020 | 240-9251 | 138 | 5 | 6731-1986 | 8-24-1 | 377-8144 |
| 89 | 5 | 133-2367 | 229-9545 | 243-6629 | 139 | 6 | 7069-8305 | 44-65-7 | 380-5522 |
| 90 | 6 | 476-8687 | 266-2461 | 246-4007 | 140 | 0 | 7408-4624 | 80-8273 | 383-2860 |
| 91 | 0 | 815-3005 | 302-5378 | 249-1385 | 141 | 1 | 7747-0942 | 117-1189 | 386-0278 |
| 92 | 1 | 1154-1324 | 338-8294 | 251-8763 | 142 | 2 | 8085-7261 | 153-4106 | 388-7656 |
| 93 | 2 | 1492-7643 | 375-1210 | 254-6141 | 143 | 3 | 8424-3580 | 189-7022 | 391-5034 |
| 94 | 3 | 1831-3962 | 411-4126 | 257-3519 | 144 | 4 | 8762-9899 | 225-9938 | 394-2411 |
| 95 | 4 | 2170-0280 | 447-7043 | 260-0896 | 145 | 5 | 9101-6217 | 262-2854 | 396-9789 |
| 96 | 5 | 2508-6599 | 483-9959 | 262-8274 | 146 | 6 | 9440-2536 | 298-5771 | 399-7167 |
| 97 | 6 | 2847-2918 | 520-2875 | 265-5652 | 147 | 0 | 9778-8855 | 334-8686 | 402-4545 |
| 98 | 0 | 3185-9237 | 556-5791 | 268-3030 | 148 | 1 | 117-5173 | 371-1603 | 405-1923 |
| 99 | 1 | 3524-5555 | 592-8708 | 271-0408 | 149 | 2 | 456-1492 | 407-4519 | 407-9301 |
| 100 | 2 | 3863-1874 | 629-1624 | 273-7786 | 150 | 3 | 794-7811 | 443-7436 | 410-6679 |
| 101 | 3 | 4201-8193 | 665-4540 | 276-5164 | 151 | 4 | 1133-4130 | 480-0352 | 413-4056 |
| 102 | 4 | 4540-4511 | 701-7456 | 279-2541 | 152 | 5 | 1472-0448 | 516-3268 | 416-1434 |
| 103 | 5 | 4879-0830 | 738-6572 | 281-9919 | 153 | 6 | 1810-6767 | 552-6184 | 418-8812 |
| 104 | 6 | 5217-7149 | 774-3289 | 284-7297 | 154 | 0 | 2149-3086 | 588-9101 | 421-6190 |
| 105 | 0 | 5556-3468 | 810-6205 | 287-4675 | 155 | 1 | 2487-9405 | 625-2017 | 424-3568 |
| 106 | 1 | 5894-9786 | 846-9121 | 290-2053 | 156 | 2 | 2826-5723 | 661-4933 | 427-0946 |
| 107 | 2 | 6233-6105 | 883-2037 | 292-9431 | 157 | 3 | 3165-2042 | 697-7849 | 429-8324 |
| 108 | 3 | 6572-2424 | 919-4954 | 295-6809 | 158 | 4 | 3503-8361 | 734-0766 | 432-5701 |
| 109 | 4 | 6910-8743 | 955-7870 | 298-4186 | 159 | 5 | 3842-4686 | 770-3662 | 435-3079 |
| 110 | 5 | 7249-5061 | 992-0786 | 301-1564 | 160 | 6 | 4181-0998 | 806-6568 | 438-0475 |

TABLE LXIV—Contd.

DAYS—Contd.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 161 | 0 | 4519-7317 | 842-9514 | 440-7835 | 211 | 1 | 1451-3254 | 657-6326 | 577-6728 |
| 162 | 1 | 4858-3636 | 879-2430 | 443-6213 | 212 | 2 | 1789-9572 | 693-8242 | 580-4106 |
| 163 | 2 | 5196-0955 | 915-5347 | 446-2591 | 213 | 3 | 2128-5892 | 729-1159 | 583-1484 |
| 164 | 3 | 5535-6273 | 951-8263 | 448-9060 | 214 | 4 | 2467-2210 | 766-4075 | 585-8861 |
| 165 | 4 | 5874-2592 | 988-1179 | 451-7346 | 215 | 5 | 2806-8529 | 802-6901 | 588-6239 |
| 166 | 5 | 6212-8011 | 24-4095 | 454-4724 | 216 | 6 | 3144-4848 | 838-0907 | 591-3617 |
| 167 | 6 | 6551-5230 | 66-7012 | 457-2102 | 217 | 0 | 3483-1167 | 875-2824 | 594-0995 |
| 168 | 0 | 6890-1548 | 96-9928 | 459-9480 | 218 | 1 | 3821-7485 | 911-5740 | 596-8373 |
| 169 | 1 | 7228-7867 | 133-2844 | 462-6858 | 219 | 2 | 4160-3804 | 947-8656 | 599-3751 |
| 170 | 2 | 7567-4186 | 169-5760 | 465-4236 | 220 | 3 | 4499-6123 | 984-1572 | 602-3129 |
| 171 | 3 | 7906-0505 | 205-8677 | 468-1613 | 221 | 4 | 4837-6442 | 20-4458 | 605-0506 |
| 172 | 4 | 8244-6523 | 242-1593 | 470-8991 | 222 | 5 | 5176-2760 | 58-7405 | 607-7884 |
| 173 | 5 | 8583-3142 | 278-1509 | 473-6369 | 223 | 6 | 5514-9079 | 93-0321 | 610-5282 |
| 174 | 6 | 8921-9461 | 314-7425 | 476-3747 | 224 | 0 | 5853-5398 | 129-3237 | 612-2640 |
| 175 | 0 | 9260-5779 | 351-0342 | 479-1125 | 225 | 1 | 6192-1716 | 165-6153 | 616-0018 |
| 176 | 1 | 9599-2098 | 387-3258 | 481-8503 | 226 | 2 | 6530-8035 | 201-9070 | 618-7396 |
| 177 | 2 | 9937-8417 | 423-6174 | 484-5881 | 227 | 3 | 6869-4354 | 238-1986 | 621-4774 |
| 178 | 3 | 276-4736 | 459-9090 | 487-3259 | 228 | 4 | 7208-0673 | 274-4902 | 624-2151 |
| 179 | 4 | 615-1054 | 496-2006 | 490-0636 | 229 | 5 | 7546-6991 | 310-7818 | 626-9529 |
| 180 | 5 | 953-7373 | 532-4923 | 492-8014 | 230 | 6 | 7885-3310 | 347-0735 | 629-6907 |
| 181 | 6 | 1292-3692 | 568-7830 | 495-5392 | 231 | 0 | 8223-9629 | 383-3651 | 632-4285 |
| 182 | 0 | 1631-0611 | 605-0755 | 498-2770 | 232 | 1 | 8562-5948 | 419-6567 | 635-1663 |
| 183 | 1 | 1969-6329 | 641-3671 | 501-0148 | 233 | 2 | 8901-2266 | 455-9483 | 637-9041 |
| 184 | 2 | 2308-2648 | 677-6588 | 503-7526 | 234 | 3 | 9239-8585 | 492-2400 | 640-6419 |
| 185 | 3 | 2646-8967 | 713-9504 | 506-4904 | 235 | 4 | 9578-4904 | 528-5316 | 643-3796 |
| 186 | 4 | 2985-5286 | 750-2420 | 509-2281 | 236 | 5 | 9917-1223 | 564-8232 | 646-1174 |
| 187 | 5 | 3324-1604 | 786-5336 | 511-9659 | 237 | 6 | 255-7541 | 601-1148 | 648-8552 |
| 188 | 6 | 3662-7923 | 822-8253 | 514-7037 | 238 | 0 | 594-3860 | 637-4064 | 651-5930 |
| 189 | 0 | 4001-4242 | 858-1160 | 517-4415 | 239 | 1 | 933-0179 | 673-6981 | 654-3308 |
| 190 | 1 | 4340-0561 | 895-4085 | 520-1793 | 240 | 2 | 1271-6498 | 709-9897 | 657-0686 |
| 191 | 2 | 4678-6879 | 931-7001 | 522-9171 | 241 | 3 | 1610-2816 | 746-2813 | 659-8064 |
| 192 | 3 | 5017-3198 | 967-9918 | 525-6549 | 242 | 4 | 1948-9135 | 782-5729 | 662-5441 |
| 193 | 4 | 5355-9517 | 4-2834 | 528-3926 | 243 | 5 | 2287-5454 | 818-8646 | 665-2819 |
| 194 | 5 | 5694-5836 | 40-5750 | 531-1304 | 244 | 6 | 2626-1773 | 855-1562 | 668-0197 |
| 195 | 6 | 6033-2154 | 76-8666 | 533-8682 | 245 | 0 | 2964-8691 | 891-4478 | 670-7575 |
| 196 | 0 | 6371-8473 | 113-1583 | 536-6060 | 246 | 1 | 3303-4410 | 927-7394 | 673-4953 |
| 197 | 1 | 6710-4792 | 149-4499 | 539-3438 | 247 | 2 | 3642-0729 | 964-0311 | 676-2331 |
| 198 | 2 | 7049-1110 | 185-7415 | 542-0816 | 248 | 3 | 3980-7047 | 0-3227 | 678-9709 |
| 199 | 3 | 7387-7429 | 222-0331 | 544-8194 | 249 | 4 | 4319-3366 | 36-6143 | 681-7086 |
| 200 | 4 | 7726-3748 | 258-3247 | 547-5571 | 250 | 5 | 4657-9685 | 72-9059 | 684-4464 |
| 201 | 5 | 8065-0007 | 294-6164 | 550-2949 | 251 | 6 | 4996-6004 | 109-1976 | 687-1842 |
| 202 | 6 | 8403-6385 | 330-9080 | 553-0327 | 252 | 0 | 5335-2322 | 145-4892 | 689-9220 |
| 203 | 0 | 8742-2704 | 367-1996 | 555-7705 | 253 | 1 | 5673-8641 | 181-7808 | 692-6598 |
| 204 | 1 | 9080-9023 | 403-4912 | 558-5083 | 254 | 2 | 6012-4060 | 218-0724 | 695-3976 |
| 205 | 2 | 9419-5342 | 439-7829 | 561-2461 | 255 | 3 | 6351-1279 | 254-3641 | 698-1354 |
| 206 | 3 | 9758-1660 | 476-0745 | 563-9839 | 256 | 4 | 6689-7597 | 290-6557 | 700-8731 |
| 207 | 4 | 96-7979 | 512-3661 | 566-7216 | 257 | 5 | 7028-3916 | 326-9473 | 703-6109 |
| 208 | 5 | 335-4298 | 548-6577 | 569-4594 | 258 | 6 | 7367-0236 | 363-2389 | 706-3487 |
| 209 | 6 | 774-0617 | 584-9494 | 572-1972 | 259 | 0 | 7705-6554 | 399-5305 | 709-0865 |
| 210 | 9 | 1112-6935 | 621-2410 | 574-9350 | 260 | 1 | 8044-2872 | 435-8222 | 711-8243 |

TABLE LXIV—Contd.

DAYS—Contd.

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 261 | 2 | 8382-9191 | 472-1138 | 714-5621 | 311 | 3 | 5314-5128 | 286-0950 | 851-4514 |
| 262 | 3 | 8721-5510 | 508-4054 | 717-2999 | 312 | 4 | 5653-1446 | 322-9886 | 854-1891 |
| 263 | 4 | 9060-1829 | 544-0970 | 720-0376 | 313 | 5 | 5991-7766 | 359-2782 | 856-9269 |
| 264 | 5 | 9398-8147 | 580-9887 | 725-7764 | 314 | 6 | 6330-4084 | 395-5699 | 859-6647 |
| 265 | 6 | 9737-4466 | 617-2803 | 725-5132 | 315 | 0 | 6669-0403 | 431-8615 | 862-4025 |
| 266 | 0 | 76-0785 | 653-5719 | 728-2510 | 316 | 1 | 7007-6722 | 468-1531 | 865-1403 |
| 267 | 1 | 414-7104 | 689-8635 | 730-9888 | 317 | 2 | 7346-3041 | 504-4447 | 867-8781 |
| 268 | 2 | 753-3422 | 726-1552 | 733-7266 | 318 | 3 | 7684-9359 | 540-7363 | 870-6159 |
| 269 | 3 | 1091-9741 | 762-4468 | 736-4644 | 319 | 4 | 8023-5678 | 577-0280 | 873-3536 |
| 270 | 4 | 1430-6060 | 798-7384 | 739-2021 | 320 | 5 | 8362-1997 | 613-3196 | 876-0914 |
| 271 | 5 | 1769-2378 | 835-0390 | 741-9399 | 321 | 6 | 8700-8315 | 649-6112 | 878-8232 |
| 272 | 6 | 2107-8697 | 871-3217 | 744-6777 | 322 | 0 | 9039-4634 | 685-0028 | 881-6670 |
| 273 | 0 | 2446-5016 | 907-6133 | 747-4155 | 323 | 1 | 9378-0953 | 722-1945 | 884-3048 |
| 274 | 1 | 2785-1335 | 943-9049 | 750-1533 | 324 | 2 | 9716-7272 | 758-4861 | 887-0426 |
| 275 | 2 | 3123-7653 | 979-1965 | 752-8911 | 325 | 3 | 55-3590 | 794-7777 | 889-7804 |
| 276 | 3 | 3462-3972 | 16-4882 | 755-6289 | 326 | 4 | 394-9909 | 831-0693 | 892-5181 |
| 277 | 4 | 3801-0291 | 52-7798 | 758-3666 | 327 | 5 | 732-6228 | 867-3610 | 895-2559 |
| 278 | 5 | 4139-6610 | 89-0714 | 761-1044 | 328 | 6 | 1071-2547 | 903-6526 | 897-9937 |
| 279 | 6 | 4478-2928 | 125-3630 | 763-8432 | 329 | 0 | 1400-8865 | 939-0442 | 900-7315 |
| 280 | 0 | 4816-9247 | 161-6546 | 766-5800 | 330 | 1 | 1748-5184 | 976-2358 | 903-4693 |
| 281 | 1 | 5155-5566 | 197-9463 | 769-3178 | 331 | 2 | 2087-1503 | 12-5275 | 906-2071 |
| 282 | 2 | 5494-1885 | 234-2379 | 772-6556 | 332 | 3 | 2425-7822 | 48-8191 | 908-9449 |
| 283 | 3 | 5832-8203 | 270-5295 | 774-7934 | 333 | 4 | 2764-4140 | 85-1107 | 911-6826 |
| 284 | 4 | 6171-4522 | 306-8211 | 777-5311 | 334 | 5 | 3103-0459 | 121-4023 | 914-4204 |
| 285 | 5 | 6510-0841 | 343-1128 | 780-2689 | 335 | 6 | 3441-6778 | 157-6940 | 917-1582 |
| 286 | 6 | 6848-7160 | 379-4644 | 783-0067 | 336 | 0 | 3780-3097 | 193-9856 | 919-8060 |
| 287 | 0 | 7187-3478 | 415-6960 | 785-7445 | 337 | 1 | 4118-9415 | 230-2772 | 922-6338 |
| 288 | 1 | 7525-9797 | 451-9876 | 788-4823 | 338 | 2 | 4457-5734 | 266-5688 | 925-3716 |
| 289 | 2 | 7864-6116 | 488-2793 | 791-2201 | 339 | 3 | 4796-2053 | 302-8604 | 928-1094 |
| 290 | 3 | 8203-2435 | 524-5709 | 793-9579 | 340 | 4 | 5134-8372 | 339-1521 | 930-8471 |
| 291 | 4 | 8541-8753 | 560-8625 | 796-6956 | 341 | 5 | 5473-4690 | 375-4437 | 933-5849 |
| 292 | 5 | 8880-5072 | 597-1541 | 799-4334 | 342 | 6 | 5812-1009 | 411-7353 | 936-3227 |
| 293 | 6 | 9219-1391 | 633-4458 | 802-1712 | 343 | 0 | 6150-7328 | 448-0269 | 939-0605 |
| 294 | 0 | 9557-7610 | 669-7374 | 804-9090 | 344 | 1 | 6489-3646 | 484-3186 | 941-7983 |
| 295 | 1 | 9896-4028 | 706-0290 | 807-6488 | 345 | 2 | 6827-9965 | 520-6102 | 944-5361 |
| 296 | 2 | 235-0347 | 742-3206 | 810-3846 | 346 | 3 | 7166-6284 | 556-9618 | 947-2739 |
| 297 | 3 | 573-6606 | 778-6123 | 813-1224 | 347 | 4 | 7505-2603 | 593-1934 | 950-0116 |
| 298 | 4 | 912-2984 | 814-9039 | 815-8601 | 348 | 5 | 7843-8921 | 629-4851 | 952-7494 |
| 299 | 5 | 1250-9303 | 851-1955 | 818-5979 | 349 | 6 | 8182-5240 | 665-7767 | 955-4872 |
| 300 | 6 | 1589-5622 | 887-4871 | 821-3357 | 350 | 0 | 8521-1559 | 702-0683 | 958-2250 |
| 301 | 0 | 1928-1941 | 923-7787 | 824-0735 | 351 | 1 | 8859-7878 | 738-3599 | 960-9628 |
| 302 | 1 | 2266-8259 | 960-0704 | 826-8113 | 352 | 2 | 9158-4166 | 774-6516 | 963-7006 |
| 303 | 2 | 2605-4578 | 996-3629 | 829-5491 | 353 | 3 | 9537-0515 | 810-9432 | 966-4384 |
| 304 | 3 | 2944-0897 | 32-6536 | 832-2809 | 354 | 4 | 9875-6834 | 847-2348 | 969-1761 |
| 305 | 4 | 3282-7246 | 68-9452 | 835-0246 | 355 | 5 | 214-3153 | 883-5264 | 971-9135 |
| 306 | 5 | 3621-3534 | 105-2362 | 837-7624 | 356 | 6 | 552-9471 | 919-8181 | 974-6517 |
| 307 | 6 | 3959-9853 | 141-5785 | 840-5002 | 357 | 0 | 891-5790 | 956-1097 | 977-3895 |
| 308 | 0 | 4298-6172 | 177-8201 | 843-2380 | 358 | 1 | 1230-2109 | 992-4013 | 980-1278 |
| 309 | 1 | 4637-2491 | 214-1117 | 845-9758 | 359 | 2 | 1568-8428 | 26-6929 | 982-8651 |
| 310 | 2 | 4975-8809 | 250-4034 | 848-7136 | 360 | 3 | 1907-4746 | 64-9845 | 985-6029 |

TABLE LXIV—*Concl'd.*DAYs—*Concl'd.*

| No. | Week-day. | a. | b. | c. | No. | Week-day. | a. | b. | c. |
|-----|-----------|-----------|----------|----------|-----|-----------|-----------|----------|---------|
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 361 | 4 | 2246-1065 | 101-2762 | 988-3406 | 376 | 5 | 7325-5846 | 645-6505 | 29-4074 |
| 362 | 5 | 2584-7384 | 137-5678 | 991-6784 | 377 | 6 | 7664-2165 | 681-9421 | 32-1452 |
| 363 | 6 | 2923-3703 | 173-8394 | 993-8162 | 378 | 0 | 8002-8484 | 718-2338 | 34-8830 |
| 364 | 0 | 3262-0021 | 210-1510 | 996-5540 | 379 | 1 | 8341-4802 | 754-5234 | 37-6208 |
| 365 | 1 | 3600-6340 | 246-4427 | 999-2918 | 380 | 2 | 8680-1121 | 790-8170 | 40-3586 |
| 366 | 2 | 3939-2659 | 282-7343 | 2-0296 | 381 | 3 | 9018-7440 | 827-1086 | 43-0964 |
| 367 | 3 | 4277-8978 | 319-0259 | 4-7674 | 382 | 4 | 9357-3759 | 863-4003 | 45-8341 |
| 368 | 4 | 4616-5296 | 355-3175 | 7-5051 | 383 | 5 | 9696-0077 | 899-6919 | 48-5719 |
| 369 | 5 | 4955-1615 | 391-6092 | 10-2429 | 384 | 6 | 34-6396 | 935-9835 | 51-3097 |
| 370 | 6 | 5293-7934 | 427-9008 | 12-9807 | 385 | 0 | 373-2715 | 972-2751 | 54-0475 |
| 371 | 0 | 5632-4252 | 464-1924 | 15-7185 | | | | | |
| 372 | 1 | 5971-0571 | 500-4840 | 18-4563 | | | | | |
| 373 | 2 | 6309-6800 | 536-7757 | 21-1941 | | | | | |
| 374 | 3 | 6648-3209 | 573-0673 | 23-9319 | | | | | |
| 375 | 4 | 6986-9527 | 609-3589 | 26-6696 | | | | | |

TABLE LXV.

INCREASE OF a , b , c BY THE FIRST ARYA-SIDDHANTA WITH LALLA'S BIJA.

HOURS, MINUTES AND SECONDS.

(" a " in 10,000ths of circle ; " b " and " c " in 1,000ths.)*This Table corresponds to Table V, "Indian Calendar."*

| Increase in | a . | b . | c . |
|----------------------|--------------|-------------|-------------|
| One hour | 14-109061416 | 1-512150089 | 0-114074403 |
| One minute | 0-235161024 | 0-025202517 | 0-001901210 |
| One second | 0-003919350 | 0-000420042 | 0-000031687 |

HOURS.

| No. | a . | b . | c . | No. | a . | b . | c . |
|-----|----------|---------|--------|-----|----------|---------|--------|
| 1 | 14-1097 | 1-5122 | 0-1141 | 13 | 183-4256 | 19-6580 | 1-4830 |
| 2 | 28-2193 | 3-0243 | 0-2281 | 14 | 197-5353 | 21-1701 | 1-5970 |
| 3 | 42-3290 | 4-5365 | 0-3422 | 15 | 211-6449 | 22-6823 | 1-7111 |
| 4 | 56-4386 | 6-0486 | 0-4563 | 16 | 225-7546 | 24-1944 | 1-8252 |
| 5 | 70-5483 | 7-5608 | 0-5704 | 17 | 239-8642 | 25-7066 | 1-9393 |
| 6 | 84-6580 | 9-0729 | 0-6844 | 18 | 253-9739 | 27-2187 | 2-0533 |
| 7 | 98-7676 | 10-5851 | 0-7985 | 19 | 268-0836 | 28-7309 | 2-1674 |
| 8 | 112-8773 | 12-0972 | 0-9126 | 20 | 282-1932 | 30-2430 | 2-2815 |
| 9 | 126-9870 | 13-6094 | 1-0267 | 21 | 296-3029 | 31-7552 | 2-3956 |
| 10 | 141-0966 | 15-1215 | 1-1407 | 22 | 310-4126 | 33-2673 | 2-5096 |
| 11 | 155-2063 | 16-6337 | 1-2548 | 23 | 324-5222 | 34-7795 | 2-6237 |
| 12 | 169-3159 | 18-1458 | 1-3689 | 24 | 338-6319 | 36-2916 | 2-7378 |

MINUTES.

| No. | a . | b . | c . | No. | a . | b . | c . | No. | a . | b . | c . |
|-----|--------|--------|--------|-----|--------|--------|--------|-----|---------|--------|--------|
| 1 | 0-2352 | 0-0252 | 0-0019 | 21 | 4-9384 | 0-5293 | 0-0399 | 41 | 9-6416 | 1-0333 | 0-0780 |
| 2 | 0-4703 | 0-0504 | 0-0038 | 22 | 5-1735 | 0-5545 | 0-0418 | 42 | 9-8768 | 1-0585 | 0-0799 |
| 3 | 0-7055 | 0-0756 | 0-0057 | 23 | 5-4087 | 0-5797 | 0-0437 | 43 | 10-1119 | 1-0837 | 0-0818 |
| 4 | 0-9406 | 0-1008 | 0-0076 | 24 | 5-6439 | 0-6049 | 0-0456 | 44 | 10-3471 | 1-1089 | 0-0837 |
| 5 | 1-1758 | 0-1260 | 0-0095 | 25 | 5-8790 | 0-6301 | 0-0475 | 45 | 10-5822 | 1-1341 | 0-0856 |
| 6 | 1-4110 | 0-1512 | 0-0114 | 26 | 6-1142 | 0-6553 | 0-0494 | 46 | 10-8174 | 1-1593 | 0-0875 |
| 7 | 1-6461 | 0-1764 | 0-0133 | 27 | 6-3493 | 0-6805 | 0-0513 | 47 | 11-0526 | 1-1845 | 0-0894 |
| 8 | 1-8813 | 0-2016 | 0-0152 | 28 | 6-5845 | 0-7057 | 0-0532 | 48 | 11-2877 | 1-2097 | 0-0913 |
| 9 | 2-1164 | 0-2268 | 0-0171 | 29 | 6-8197 | 0-7309 | 0-0551 | 49 | 11-5229 | 1-2349 | 0-0932 |
| 10 | 2-3516 | 0-2520 | 0-0190 | 30 | 7-0548 | 0-7561 | 0-0570 | 50 | 11-7581 | 1-2601 | 0-0951 |
| 11 | 2-5868 | 0-2772 | 0-0209 | 31 | 7-2900 | 0-7813 | 0-0589 | 51 | 11-9932 | 1-2853 | 0-0970 |
| 12 | 2-8219 | 0-3024 | 0-0228 | 32 | 7-5252 | 0-8065 | 0-0608 | 52 | 12-2284 | 1-3105 | 0-0989 |
| 13 | 3-0571 | 0-3276 | 0-0247 | 33 | 7-7603 | 0-8317 | 0-0627 | 53 | 12-4635 | 1-3357 | 0-1008 |
| 14 | 3-2923 | 0-3528 | 0-0266 | 34 | 7-9955 | 0-8569 | 0-0646 | 54 | 12-6987 | 1-3609 | 0-1027 |
| 15 | 3-5274 | 0-3780 | 0-0285 | 35 | 8-2306 | 0-8821 | 0-0665 | 55 | 12-9339 | 1-3861 | 0-1046 |
| 16 | 3-7626 | 0-4032 | 0-0304 | 36 | 8-4658 | 0-9073 | 0-0684 | 56 | 13-1690 | 1-4113 | 0-1065 |
| 17 | 3-9977 | 0-4284 | 0-0323 | 37 | 8-7010 | 0-9325 | 0-0703 | 57 | 13-4042 | 1-4365 | 0-1084 |
| 18 | 4-2329 | 0-4536 | 0-0342 | 38 | 8-9361 | 0-9577 | 0-0722 | 58 | 13-6393 | 1-4617 | 0-1103 |
| 19 | 4-4681 | 0-4788 | 0-0361 | 39 | 9-1713 | 0-9829 | 0-0741 | 59 | 13-8745 | 1-4869 | 0-1122 |
| 20 | 4-7032 | 0-5041 | 0-0380 | 40 | 9-4064 | 1-0081 | 0-0760 | 60 | 14-1097 | 1-5122 | 0-1141 |

TABLE LXV—*Contd.*

SECONDS.

| No. | a. | b. | c. | No. | a. | b. | c. | No. | a. | b. | c. |
|-----|--------|--------|--------|-----|--------|--------|--------|-----|--------|--------|--------|
| 1 | 0-0039 | 0-0004 | 0-0000 | 21 | 0-0823 | 0-0088 | 0-0007 | 41 | 0-1607 | 0-0172 | 0-0013 |
| 2 | 0-0078 | 0-0008 | 0-0001 | 22 | 0-0862 | 0-0092 | 0-0007 | 42 | 0-1646 | 0-0176 | 0-0013 |
| 3 | 0-0118 | 0-0013 | 0-0001 | 23 | 0-0901 | 0-0097 | 0-0007 | 43 | 0-1685 | 0-0181 | 0-0014 |
| 4 | 0-0157 | 0-0017 | 0-0001 | 24 | 0-0941 | 0-0101 | 0-0008 | 44 | 0-1725 | 0-0185 | 0-0014 |
| 5 | 0-0198 | 0-0021 | 0-0002 | 25 | 0-0980 | 0-0105 | 0-0008 | 45 | 0-1764 | 0-0189 | 0-0014 |
| 6 | 0-0235 | 0-0025 | 0-0002 | 26 | 0-1019 | 0-0109 | 0-0008 | 46 | 0-1803 | 0-0193 | 0-0015 |
| 7 | 0-0274 | 0-0029 | 0-0002 | 27 | 0-1058 | 0-0113 | 0-0009 | 47 | 0-1842 | 0-0197 | 0-0015 |
| 8 | 0-0314 | 0-0034 | 0-0003 | 28 | 0-1097 | 0-0118 | 0-0009 | 48 | 0-1881 | 0-0202 | 0-0015 |
| 9 | 0-0353 | 0-0038 | 0-0003 | 29 | 0-1137 | 0-0122 | 0-0009 | 49 | 0-1920 | 0-0206 | 0-0016 |
| 10 | 0-0392 | 0-0042 | 0-0003 | 30 | 0-1176 | 0-0126 | 0-0010 | 50 | 0-1960 | 0-0210 | 0-0016 |
| 11 | 0-0431 | 0-0046 | 0-0003 | 31 | 0-1215 | 0-0130 | 0-0010 | 51 | 0-1999 | 0-0214 | 0-0016 |
| 12 | 0-0470 | 0-0050 | 0-0004 | 32 | 0-1254 | 0-0134 | 0-0010 | 52 | 0-2038 | 0-0218 | 0-0016 |
| 13 | 0-0510 | 0-0055 | 0-0004 | 33 | 0-1293 | 0-0139 | 0-0010 | 53 | 0-2077 | 0-0223 | 0-0017 |
| 14 | 0-0549 | 0-0059 | 0-0004 | 34 | 0-1333 | 0-0143 | 0-0011 | 54 | 0-2116 | 0-0227 | 0-0017 |
| 15 | 0-0588 | 0-0063 | 0-0005 | 35 | 0-1372 | 0-0147 | 0-0011 | 55 | 0-2156 | 0-0231 | 0-0017 |
| 16 | 0-0627 | 0-0067 | 0-0005 | 36 | 0-1411 | 0-0151 | 0-0011 | 56 | 0-2195 | 0-0235 | 0-0018 |
| 17 | 0-0666 | 0-0071 | 0-0005 | 37 | 0-1450 | 0-0155 | 0-0012 | 57 | 0-2234 | 0-0239 | 0-0018 |
| 18 | 0-0705 | 0-0076 | 0-0006 | 38 | 0-1489 | 0-0160 | 0-0012 | 58 | 0-2273 | 0-0244 | 0-0018 |
| 19 | 0-0745 | 0-0080 | 0-0006 | 39 | 0-1528 | 0-0164 | 0-0012 | 59 | 0-2312 | 0-0248 | 0-0019 |
| 20 | 0-0784 | 0-0084 | 0-0006 | 40 | 0-1568 | 0-0168 | 0-0013 | 60 | 0-2352 | 0-0252 | 0-0019 |

TABLES LXVI, LXVII.

"EQUATION b " AND "EQUATION c " IN WHOLE NUMBERS BY THE FIRST ĀRYA-SIDDHĀNTA
(corresponding to Tables VI, VII, "Indian Calendar").

Tables LXVI-A and LXVII-A state the values of "equation b " and "equation c " in detail.

TABLE LXVI.

LUNAR "EQUATION b ."

| Arg. | Eqn. | Arg. | Arg. | Eqn. | Arg. |
|------|------|------|------|------|------|
| 0 | 139 | 500 | 500 | 139 | 1000 |
| 10 | 148 | 490 | 510 | 130 | 990 |
| 20 | 157 | 480 | 520 | 121 | 980 |
| 30 | 165 | 470 | 530 | 114 | 970 |
| 40 | 174 | 460 | 540 | 105 | 960 |
| 50 | 182 | 450 | 550 | 96 | 950 |
| 60 | 191 | 440 | 560 | 88 | 940 |
| 70 | 199 | 430 | 570 | 80 | 930 |
| 80 | 206 | 420 | 580 | 72 | 920 |
| 90 | 214 | 410 | 590 | 65 | 910 |
| 100 | 221 | 400 | 600 | 58 | 900 |
| 110 | 228 | 390 | 610 | 51 | 890 |
| 120 | 235 | 380 | 620 | 44 | 880 |
| 130 | 241 | 370 | 630 | 38 | 870 |
| 140 | 247 | 360 | 640 | 32 | 860 |
| 150 | 252 | 350 | 650 | 27 | 850 |
| 160 | 257 | 340 | 660 | 22 | 840 |
| 170 | 262 | 330 | 670 | 17 | 830 |
| 180 | 265 | 320 | 680 | 13 | 820 |
| 190 | 269 | 310 | 690 | 10 | 810 |
| 200 | 272 | 300 | 700 | 7 | 800 |
| 210 | 274 | 290 | 710 | 4 | 790 |
| 220 | 276 | 280 | 720 | 2 | 780 |
| 230 | 277 | 270 | 730 | 1 | 770 |
| 240 | 278 | 260 | 740 | 0 | 760 |
| 250 | 279 | 250 | 750 | 0 | 750 |

TABLE LXVII.

SOLAR "EQUATION c ."

| Arg. | Eqn. | Arg. | Arg. | Eqn. | Arg. |
|------|------|------|------|------|------|
| 0 | 60 | 500 | 500 | 60 | 1000 |
| 10 | 56 | 490 | 510 | 63 | 990 |
| 20 | 52 | 480 | 520 | 67 | 980 |
| 30 | 49 | 470 | 530 | 71 | 970 |
| 40 | 45 | 460 | 540 | 75 | 960 |
| 50 | 41 | 450 | 550 | 78 | 950 |
| 60 | 38 | 440 | 560 | 81 | 940 |
| 70 | 34 | 430 | 570 | 85 | 930 |
| 80 | 31 | 420 | 580 | 88 | 920 |
| 90 | 28 | 410 | 590 | 92 | 910 |
| 100 | 25 | 400 | 600 | 95 | 900 |
| 110 | 21 | 390 | 610 | 98 | 890 |
| 120 | 18 | 380 | 620 | 101 | 880 |
| 130 | 16 | 370 | 630 | 103 | 870 |
| 140 | 14 | 360 | 640 | 106 | 860 |
| 150 | 11 | 350 | 650 | 108 | 850 |
| 160 | 9 | 340 | 660 | 110 | 840 |
| 170 | 7 | 330 | 670 | 112 | 830 |
| 180 | 6 | 320 | 680 | 113 | 820 |
| 190 | 4 | 310 | 690 | 115 | 810 |
| 200 | 3 | 300 | 700 | 116 | 800 |
| 210 | 2 | 290 | 710 | 117 | 790 |
| 220 | 1 | 280 | 720 | 118 | 780 |
| 230 | 1 | 270 | 730 | 119 | 770 |
| 240 | 0 | 260 | 740 | 119 | 760 |
| 250 | 0 | 250 | 750 | 119 | 750 |

| Diff. in equa- tion. | Last figure of argument. | | | | | | | | | |
|-------------------------------|--------------------------|---|--------|---|--------|---|--------|---|--------|--|
| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
| | Add or subtract. | | | | | | | | | |
| 9 | 8 | 7 | 6 | 5 | 4 or 5 | 4 | 3 | 2 | 1 | |
| 8 | 7 | 6 | 5 | 5 | 4 | 3 | 2 | 1 | 1 | |
| 7 | 6 | 6 | 5 | 4 | 3 or 4 | 3 | 2 | 1 | 1 | |
| 6 | 5 | 5 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | |
| 5 | 4 or 5 | 4 | 3 or 4 | 3 | 2 or 3 | 2 | 1 or 2 | 1 | 0 or 1 | |
| 4 | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | |
| 3 | 3 | 2 | 2 | 2 | 1 or 2 | 1 | 1 | 1 | 1 | |
| 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | |
| 1 | 1 | 1 | 1 | 1 | 0 or 1 | 0 | 0 | 0 | 0 | |

TABLE LXVI A.

(A) MOON'S EQUATION OF THE CENTRE ("Equation *b*.") BY THE FIRST ĀRYA-SIDDHĀNTA
FROM (ζ 's MEAN ANOMALY ("Arg. *b*.") 0—500 (0° — 180°).

Cols. 3, 4.—Equation and difference stand for either of the mean anom. values in cols. 2a, 2.
For the 24 base-equations see Table LXX.

"Arg. *b*." is ζ 's mean anom. in 1,000ths of circle.

Col. 3.—The equation is ζ 's greatest equation plus the actual equation, in 10,000ths of circle.

| Serial No. of sine. | Arg. <i>b</i> . | Equation <i>b</i> . | Diff. | Arg. <i>b</i> . | Serial No. of sine. | Arg. <i>b</i> . | Equation <i>b</i> . | Diff. | Arg. <i>b</i> . |
|------------------------|-----------------|------------------------|--------|-----------------|------------------------|-----------------|------------------------|--------|-----------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 0-0 | 139-4275 | 1-8229 | 500-0 | 12 | 125-0 | 237-9050 | 1-2482 | 375-0 |
| | 2-083 | 141-2505 | | 497-916 | | 127-083 | 239-1537 | | 372-916 |
| | 4-16 | 143-0734 | | 495-83 | | 129-16 | 240-4019 | | 370-83 |
| | 6-25 | 144-8963 | | 493-75 | | 131-25 | 241-6501 | | 368-75 |
| 1 | 8-3 | 146-7192 | 1-8148 | 491-6 | 13 | 133-3 | 242-8983 | 1-1637 | 366-6 |
| | 10-416 | 148-5421 | | 489-583 | | 135-416 | 244-1464 | | 364-583 |
| | 12-5 | 150-3650 | | 487-5 | | 137-5 | 245-3102 | | 362-5 |
| | 14-583 | 152-1718 | | 485-416 | | 139-583 | 246-4739 | | 360-416 |
| 2 | 16-6 | 153-9866 | 1-7986 | 483-3 | 14 | 141-6 | 247-6376 | 1-0661 | 358-3 |
| | 18-75 | 155-8014 | | 481-25 | | 143-75 | 248-8014 | | 356-25 |
| | 20-83 | 157-6162 | | 479-16 | | 145-83 | 249-9651 | | 354-16 |
| | 22-916 | 159-4148 | | 477-083 | | 147-916 | 251-0312 | | 352-083 |
| 3 | 25-0 | 161-2134 | 1-7743 | 475-0 | 15 | 150-0 | 252-0973 | 0-9684 | 350-0 |
| | 27-083 | 163-0120 | | 472-916 | | 152-083 | 253-1634 | | 347-916 |
| | 29-16 | 164-8106 | | 470-83 | | 154-16 | 254-2294 | | 345-83 |
| | 31-25 | 166-6093 | | 468-75 | | 156-25 | 255-2955 | | 343-75 |
| 4 | 33-3 | 168-3836 | 1-7419 | 466-6 | 16 | 158-3 | 256-2640 | 0-8626 | 341-6 |
| | 35-416 | 170-1579 | | 464-583 | | 160-416 | 257-2324 | | 339-583 |
| | 37-5 | 171-9322 | | 462-5 | | 162-5 | 258-2008 | | 337-5 |
| | 39-583 | 173-7065 | | 460-416 | | 164-583 | 259-1692 | | 335-416 |
| 5 | 41-6 | 175-4808 | 1-7014 | 458-3 | 17 | 166-6 | 260-1376 | 0-7568 | 333-3 |
| | 43-75 | 177-2227 | | 456-25 | | 168-75 | 261-0003 | | 331-25 |
| | 45-83 | 178-9649 | | 454-16 | | 170-83 | 261-8629 | | 329-16 |
| | 47-916 | 180-7065 | | 452-083 | | 172-916 | 262-7255 | | 327-083 |
| 6 | 50-0 | 182-4484 | 1-6609 | 450-0 | 18 | 175-0 | 263-5882 | 0-6429 | 325-0 |
| | 52-083 | 184-1903 | | 447-916 | | 177-083 | 264-4508 | | 322-916 |
| | 54-16 | 185-9317 | | 445-83 | | 179-16 | 265-3076 | | 320-83 |
| | 56-25 | 187-5931 | | 443-75 | | 181-25 | 266-0645 | | 318-75 |
| 7 | 58-3 | 189-2944 | 1-6123 | 441-6 | 19 | 183-3 | 266-7213 | 0-5290 | 316-6 |
| | 60-416 | 190-9958 | | 439-583 | | 185-416 | 267-4781 | | 314-583 |
| | 62-5 | 192-6972 | | 437-5 | | 187-5 | 268-2350 | | 312-5 |
| | 64-583 | 194-3581 | | 435-416 | | 189-583 | 268-8779 | | 310-416 |
| 8 | 66-6 | 196-0190 | 1-5475 | 433-3 | 20 | 191-6 | 269-5208 | 0-4150 | 308-3 |
| | 68-75 | 197-6799 | | 431-25 | | 193-75 | 270-1637 | | 306-25 |
| | 70-83 | 199-3407 | | 429-16 | | 195-83 | 270-8066 | | 304-16 |
| | 72-916 | 201-0016 | | 427-083 | | 197-916 | 271-4495 | | 302-083 |
| 9 | 75-0 | 202-6139 | 1-4826 | 425-0 | 21 | 200-0 | 271-9785 | 0-3011 | 300-0 |
| | 77-083 | 204-2262 | | 422-916 | | 202-083 | 272-5074 | | 297-916 |
| | 79-16 | 205-8384 | | 420-83 | | 204-0 | 273-0364 | | 295-83 |
| | 81-25 | 207-4507 | | 418-75 | | 206-25 | 273-5654 | | 293-75 |
| 10 | 83-3 | 209-0630 | 1-4097 | 416-6 | 22 | 208-3 | 274-0944 | 0-1790 | 291-6 |
| | 85-416 | 210-6104 | | 414-583 | | 210-416 | 274-5094 | | 289-583 |
| | 87-5 | 212-1579 | | 412-5 | | 212-5 | 274-9244 | | 287-5 |
| | 89-583 | 213-7053 | | 410-416 | | 214-583 | 275-3395 | | 285-416 |
| 11 | 91-6 | 215-2528 | 1-3287 | 408-3 | 23 | 216-6 | 275-7545 | 0-0570 | 283-3 |
| | 93-75 | 216-8002 | | 406-25 | | 218-75 | 276-1695 | | 281-25 |
| | 95-83 | 218-2829 | | 404-16 | | 220-83 | 276-4707 | | 279-16 |
| | 97-916 | 219-7655 | | 402-083 | | 222-916 | 276-7718 | | 277-083 |
| 12 | 100-0 | 221-2481 | 1-2482 | 400-0 | 24 | 225-0 | 277-0729 | 0-0570 | 275-0 |
| | 102-083 | 222-7308 | | 397-916 | | 227-083 | 277-3740 | | 272-916 |
| | 104-16 | 224-2134 | | 395-83 | | 229-16 | 277-6751 | | 270-83 |
| | 106-25 | 225-6231 | | 393-75 | | 231-25 | 277-8741 | | 268-75 |
| 13 | 108-3 | 227-0329 | 1-1637 | 391-6 | 25 | 233-3 | 278-0322 | 0-0570 | 266-6 |
| | 110-416 | 228-4426 | | 389-583 | | 235-416 | 278-2122 | | 264-583 |
| | 112-5 | 229-8523 | | 387-5 | | 237-5 | 278-3912 | | 262-5 |
| | 114-583 | 231-2620 | | 385-416 | | 239-583 | 278-5703 | | 260-416 |
| 14 | 116-6 | 232-5907 | 1-0661 | 383-3 | 26 | 241-6 | 278-6272 | 0-0570 | 258-3 |
| | 118-75 | 233-9194 | | 381-25 | | 243-75 | 278-6842 | | 256-25 |
| | 120-83 | 235-2482 | | 379-16 | | 245-83 | 278-7412 | | 254-16 |
| | 122-916 | 236-5769 | | 377-083 | | 247-916 | 278-7981 | | 252-083 |
| 15 | | | 1-0661 | | 27 | 250-0 | 278-8551 | 0-0570 | 250-0 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

TABLE LXV. A—Contd.

(B) MOON'S EQUATION OF THE CENTRE (" EQUATION *b*.") BY THE FIRST ARYA-SIDDHANTA FROM ('s MEAN ANOMALY (" Arg. *b*.") 500—100) (180°—360°).

Col. 3.—The equation is ('s greatest equation minus the actual equation, in 10,000ths of circle.

| Serial No. of sine. | Arg. <i>b</i> . | Equation <i>b</i> . | Diff. | Arg. <i>b</i> . | Serial No. of sine. | Arg. <i>b</i> . | Equation <i>b</i> . | Diff. | Arg. <i>b</i> . |
|------------------------|-----------------|------------------------|--------|-----------------|------------------------|-----------------|------------------------|--------|-----------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 500-0 | 139-4275 | 1-8229 | 1000-0 | 12 | 635-0 | 40-9495 | 1-2482 | 875-0 |
| | 502-083 | 137-6046 | | 997-916 | | 627-083 | 39-7014 | | 872-918 |
| | 504-16 | 135-7817 | | 995-83 | | 629-16 | 38-4532 | | 870-83 |
| | 506-25 | 133-9588 | | 993-75 | | 631-25 | 37-2050 | | 868-75 |
| 1 | 508-3 | 132-1359 | 1-8148 | 991-6 | 13 | 633-3 | 35-9568 | 1-1637 | 866-6 |
| | 510-416 | 130-3130 | | 989-583 | | 635-416 | 34-7087 | | 864-583 |
| | 512-5 | 128-4982 | | 987-5 | | 637-5 | 33-5449 | | 862-5 |
| | 514-583 | 126-6833 | | 985-416 | | 639-583 | 32-3812 | | 860-416 |
| 2 | 516-6 | 124-8685 | 1-7986 | 983-3 | 14 | 641-6 | 31-2175 | 1-0661 | 858-3 |
| | 518-75 | 123-0537 | | 981-25 | | 643-75 | 30-0537 | | 856-25 |
| | 520-83 | 121-2389 | | 979-16 | | 645-83 | 28-8900 | | 854-16 |
| | 522-916 | 119-4240 | | 977-083 | | 647-916 | 27-7239 | | 852-083 |
| 3 | 525-0 | 117-6417 | 1-7743 | 975-0 | 15 | 650-0 | 26-5578 | 0-9684 | 850-0 |
| | 527-083 | 115-8431 | | 972-916 | | 652-083 | 25-3917 | | 847-916 |
| | 529-16 | 114-0444 | | 970-83 | | 654-16 | 24-2257 | | 845-83 |
| | 531-25 | 112-2458 | | 968-75 | | 656-25 | 23-0596 | | 843-75 |
| 4 | 533-3 | 110-4715 | 1-7419 | 966-6 | 16 | 658-3 | 22-5911 | 0-8626 | 841-6 |
| | 535-416 | 108-6972 | | 964-583 | | 660-416 | 21-4227 | | 839-583 |
| | 537-5 | 106-9229 | | 962-5 | | 662-5 | 20-2543 | | 837-5 |
| | 539-583 | 105-1486 | | 960-416 | | 664-583 | 19-0859 | | 835-416 |
| 5 | 541-6 | 103-3743 | 1-7014 | 958-3 | 17 | 666-6 | 18-7175 | 0-7568 | 833-3 |
| | 543-75 | 101-6324 | | 956-25 | | 668-75 | 17-5488 | | 831-25 |
| | 545-83 | 99-8905 | | 954-16 | | 670-83 | 16-3922 | | 829-16 |
| | 547-916 | 98-1486 | | 952-083 | | 672-916 | 15-2369 | | 827-083 |
| 6 | 550-0 | 96-4067 | 1-6609 | 950-0 | 18 | 675-0 | 14-0843 | 0-6429 | 825-0 |
| | 552-083 | 94-6648 | | 947-916 | | 677-083 | 13-4475 | | 822-916 |
| | 554-16 | 92-9034 | | 945-83 | | 679-16 | 12-8006 | | 820-83 |
| | 556-25 | 91-2320 | | 943-75 | | 681-25 | 12-1538 | | 818-75 |
| 7 | 558-3 | 89-5607 | 1-6123 | 941-6 | 19 | 683-3 | 11-3770 | 0-5290 | 816-6 |
| | 560-416 | 87-8593 | | 939-583 | | 685-416 | 10-6201 | | 814-583 |
| | 562-5 | 86-1579 | | 937-5 | | 687-5 | 9-9772 | | 812-5 |
| | 564-583 | 84-4970 | | 935-416 | | 689-583 | 9-3343 | | 810-416 |
| 8 | 566-6 | 82-8361 | 1-5475 | 933-3 | 20 | 691-6 | 8-6914 | 0-4150 | 808-3 |
| | 568-75 | 81-1752 | | 931-25 | | 693-75 | 8-0485 | | 806-25 |
| | 570-83 | 79-5144 | | 929-16 | | 695-83 | 7-4056 | | 804-16 |
| | 572-916 | 77-8535 | | 927-083 | | 697-916 | 6-7626 | | 802-083 |
| 9 | 575-0 | 76-2412 | 1-4826 | 925-0 | 21 | 700-0 | 6-3477 | 0-3011 | 800-0 |
| | 577-083 | 74-6280 | | 923-916 | | 702-083 | 5-8187 | | 797-916 |
| | 579-16 | 73-0167 | | 920-83 | | 704-16 | 5-2897 | | 795-83 |
| | 581-25 | 71-4044 | | 918-75 | | 706-25 | 4-7607 | | 793-75 |
| 10 | 583-3 | 69-7921 | 1-4097 | 916-6 | 22 | 708-3 | 4-2457 | 0-1790 | 791-6 |
| | 585-416 | 68-2447 | | 914-583 | | 710-416 | 3-7307 | | 789-583 |
| | 587-5 | 66-6972 | | 912-5 | | 712-5 | 3-2156 | | 787-5 |
| | 589-583 | 65-1498 | | 910-416 | | 714-583 | 2-7006 | | 785-416 |
| 11 | 591-6 | 63-6023 | 1-3287 | 908-3 | 23 | 716-6 | 2-1856 | 0-0570 | 783-3 |
| | 593-75 | 62-0549 | | 906-25 | | 718-75 | 1-6706 | | 781-25 |
| | 595-83 | 60-5722 | | 904-16 | | 720-83 | 1-1556 | | 779-16 |
| | 597-916 | 59-0896 | | 902-083 | | 722-916 | 0-6429 | | 777-083 |
| 12 | 600-0 | 57-6069 | 1-4097 | 900-0 | 24 | 725-0 | 0-1311 | 0-0570 | 775-0 |
| | 602-083 | 56-1243 | | 897-916 | | 727-083 | 0-6181 | | 772-916 |
| | 604-16 | 54-6417 | | 895-83 | | 729-16 | 0-1000 | | 770-83 |
| | 606-25 | 53-2319 | | 893-75 | | 731-25 | 0-5819 | | 768-75 |
| 13 | 608-3 | 51-8222 | 1-3287 | 891-6 | 25 | 733-3 | 0-0629 | 0-0570 | 766-6 |
| | 610-416 | 50-4125 | | 889-583 | | 735-416 | 0-5489 | | 764-583 |
| | 612-5 | 49-0028 | | 887-5 | | 737-5 | 0-0339 | | 762-5 |
| | 614-583 | 47-5931 | | 885-416 | | 739-583 | 0-5248 | | 760-416 |
| 14 | 616-6 | 46-2644 | 1-2482 | 883-3 | 26 | 741-6 | 0-0149 | 0-0570 | 758-3 |
| | 618-75 | 44-8357 | | 881-25 | | 743-75 | 0-5059 | | 756-25 |
| | 620-83 | 43-4069 | | 879-16 | | 745-83 | 0-4909 | | 754-16 |
| | 622-916 | 42-2782 | | 877-083 | | 747-916 | 0-4759 | | 752-083 |
| 15 | | | | | 27 | 750-0 | 0-0000 | | 750-0 |

TABLE LXVII A.

(A) SUN'S EQUATION OF THE CENTRE ("Equation c.") BY THE FIRST ĀRYA-SIDDHĀNTA
FROM ☉'s MEAN ANOMALY ("Arg. c.") (1°-100 (0°-180°)).

Cols. 3, 4.—Equation and Difference stand for either of the mean anom. values in cols. 2a, 2b.
For the 24 base-equations see Table LXVII, ab re.

"Arg. c" is ☉'s mean anomaly in 1,000ths of circle.

Col. 3.—The equation is ☉'s greatest equation minus the actual equation, in 10,000ths of circle.

| Serial No. of sine. | Arg. c. | Equation c. | Diff. | Arg. c. | Serial No. of sine. | Arg. c. | Equation c. | Diff. | Arg. c. |
|------------------------|---------|----------------|--------|---------|------------------------|---------|----------------|--------|---------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 0-0 | 59-6875 | 0-7797 | 500-0 | 12 | 125-0 | 17-4826 | 0-5347 | 375-0 |
| | 2-083 | 58-0078 | | 497-916 | | 127-083 | 16-9479 | | 372-916 |
| | 4-16 | 58-1281 | | 495-83 | | 129-16 | 16-4132 | | 370-83 |
| | 6-25 | 57-3484 | | 493-75 | | 131-25 | 15-8785 | | 368-75 |
| | 8-3 | 56-5687 | | 491-6 | | 133-3 | 15-3438 | | 366-6 |
| 1 | 10-416 | 55-7890 | 0-7793 | 489-583 | 13 | 135-416 | 14-8090 | 0-4965 | 364-583 |
| | 12-5 | 55-0096 | | 487-5 | | 137-5 | 14-3125 | | 362-5 |
| | 14-583 | 54-2303 | | 485-416 | | 139-583 | 13-8160 | | 360-416 |
| | 16-6 | 53-4510 | | 483-3 | | 141-6 | 13-3194 | | 358-3 |
| | 18-75 | 52-6717 | | 481-25 | | 143-75 | 12-8229 | | 356-25 |
| 2 | 20-83 | 51-8924 | 0-7798 | 479-16 | 14 | 145-83 | 12-3264 | 0-4549 | 354-16 |
| | 22-916 | 51-1215 | | 477-083 | | 147-916 | 11-8715 | | 352-083 |
| | 25-0 | 50-3507 | | 475-0 | | 150-0 | 11-4167 | | 350-0 |
| | 27-083 | 49-5799 | | 472-916 | | 152-083 | 10-9618 | | 347-916 |
| | 29-16 | 48-8090 | | 470-83 | | 154-16 | 10-5069 | | 345-83 |
| 3 | 31-25 | 48-0382 | 0-7694 | 468-75 | 15 | 156-25 | 10-0521 | 0-4132 | 343-75 |
| | 33-3 | 47-2778 | | 466-6 | | 158-3 | 9-6389 | | 341-6 |
| | 35-416 | 46-5174 | | 464-583 | | 160-416 | 9-2257 | | 339-583 |
| | 37-5 | 45-7569 | | 462-5 | | 162-5 | 8-8125 | | 337-5 |
| | 39-583 | 44-9965 | | 460-416 | | 164-583 | 8-3993 | | 335-416 |
| 4 | 41-6 | 44-2361 | 0-7465 | 458-3 | 16 | 166-6 | 7-9861 | 0-3681 | 333-3 |
| | 43-75 | 43-4896 | | 456-25 | | 168-75 | 7-6181 | | 331-25 |
| | 45-83 | 42-7431 | | 454-16 | | 170-83 | 7-2500 | | 329-16 |
| | 47-916 | 41-9985 | | 452-083 | | 172-916 | 6-8819 | | 327-083 |
| | 50-0 | 41-2590 | | 450-0 | | 175-0 | 6-5139 | | 325-0 |
| 5 | 52-083 | 40-5035 | 0-7292 | 447-916 | 17 | 177-083 | 6-1458 | 0-3229 | 322-916 |
| | 54-16 | 39-7743 | | 445-83 | | 179-16 | 5-8229 | | 320-83 |
| | 56-25 | 39-0451 | | 443-75 | | 181-25 | 5-5000 | | 318-75 |
| | 58-3 | 38-3160 | | 441-6 | | 183-3 | 5-1771 | | 316-6 |
| | 60-416 | 37-5868 | | 439-583 | | 185-416 | 4-8542 | | 314-58 |
| 6 | 62-5 | 36-8576 | 0-7118 | 437-5 | 18 | 187-5 | 4-5313 | 0-2743 | 312-5 |
| | 64-583 | 36-1458 | | 435-416 | | 189-583 | 4-2069 | | 310-416 |
| | 66-6 | 35-4340 | | 433-3 | | 191-6 | 3-9826 | | 308-3 |
| | 68-75 | 34-7222 | | 431-25 | | 193-75 | 3-7683 | | 306-25 |
| | 70-83 | 34-0104 | | 429-16 | | 195-83 | 3-4340 | | 304-16 |
| 7 | 72-916 | 33-2980 | 0-6910 | 427-083 | 19 | 197-916 | 3-1597 | 0-2257 | 302-083 |
| | 75-0 | 32-6076 | | 425-0 | | 200-0 | 2-9340 | | 300-0 |
| | 77-083 | 31-9167 | | 422-916 | | 202-083 | 2-7083 | | 297-916 |
| | 79-16 | 31-2257 | | 420-83 | | 204-16 | 2-4826 | | 295-83 |
| | 81-25 | 30-5347 | | 418-75 | | 206-25 | 2-2569 | | 293-75 |
| 8 | 83-3 | 29-8438 | 0-6632 | 416-6 | 20 | 208-3 | 2-0312 | 0-1771 | 291-6 |
| | 85-416 | 29-1806 | | 414-583 | | 210-416 | 1-8542 | | 289-583 |
| | 87-5 | 28-5174 | | 412-5 | | 212-5 | 1-6771 | | 287-5 |
| | 89-583 | 27-8542 | | 410-416 | | 214-583 | 1-5000 | | 285-416 |
| | 91-6 | 27-1910 | | 408-3 | | 216-6 | 1-3229 | | 283-3 |
| 9 | 93-75 | 26-5278 | 0-6354 | 406-25 | 21 | 218-75 | 1-1458 | 0-1285 | 281-25 |
| | 95-83 | 25-8924 | | 404-16 | | 220-83 | 1-0174 | | 279-16 |
| | 97-916 | 25-2569 | | 402-083 | | 222-916 | 0-8889 | | 277-083 |
| | 100-0 | 24-6215 | | 400-0 | | 225-0 | 0-7604 | | 275-0 |
| | 102-083 | 23-9861 | | 397-916 | | 227-083 | 0-6319 | | 272-916 |
| 10 | 104-16 | 23-3507 | 0-6042 | 395-83 | 22 | 229-16 | 0-5035 | 0-0756 | 270-83 |
| | 106-25 | 22-7465 | | 393-75 | | 231-25 | 0-4279 | | 268-75 |
| | 108-3 | 22-1424 | | 391-6 | | 233-3 | 0-3522 | | 266-6 |
| | 110-416 | 21-5382 | | 389-583 | | 235-416 | 0-2766 | | 264-583 |
| | 112-5 | 20-9341 | | 387-5 | | 237-5 | 0-2010 | | 262-5 |
| 11 | 114-583 | 20-3299 | 0-5694 | 385-416 | 23 | 239-583 | 0-1254 | 0-0251 | 260-416 |
| | 116-6 | 19-7604 | | 383-3 | | 241-6 | 0-1003 | | 258-3 |
| | 118-75 | 19-1910 | | 381-25 | | 243-75 | 0-0752 | | 256-25 |
| | 120-83 | 18-6215 | | 379-16 | | 245-83 | 0-0502 | | 254-16 |
| | 122-916 | 18-0521 | | 377-083 | | 247-916 | 0-0251 | | 252-083 |
| | | | | | 24 | 250-0 | 0-0 | | 250-0 |

TABLE LXVII A—Contd.

(B) SUN'S EQUATION OF THE CENTRE ("EQUATION c ,") BY THE FIRST ĀRYA-SIDDHĀNTA.FROM ☉'s MEAN ANOMALY ("Arg. c ,") 500—1000 (180°—360°).Col. 3.—The equation is ☉'s greatest equation *plus* the actual equation, in 10,000ths of circle.

| Serial No. of sine. | Arg. c . | Equation c . | Diff. | Arg. c . | Serial No. of sine. | Arg. c . | Equation c . | Diff. | Arg. c . |
|------------------------|------------|-------------------|--------|------------|------------------------|------------|-------------------|--------|------------|
| 1 | 2a | 3 | 4 | 2b | 1 | 2a | 3 | 4 | 2b |
| 0 | 500-0 | 50-0875 | 0-7797 | 1000-0 | 12 | 625-0 | 101-8924 | 0-5347 | 875-0 |
| | 502-083 | 60-4672 | | 997-916 | | 627-083 | 102-4271 | | 872-916 |
| | 504-16 | 61-2469 | | 995-83 | | 629-16 | 102-9618 | | 870-83 |
| | 506-25 | 62-0266 | | 993-75 | | 631-25 | 103-4965 | | 868-75 |
| | 508-3 | 62-8063 | | 991-6 | | 633-3 | 104-0312 | | 866-6 |
| 1 | 510-416 | 63-5860 | 0-7793 | 989-583 | 13 | 635-416 | 104-5660 | 0-4905 | 864-583 |
| | 512-5 | 64-3654 | | 987-5 | | 637-5 | 105-0625 | | 862-5 |
| | 514-583 | 65-1447 | | 985-416 | | 639-583 | 105-5590 | | 860-416 |
| | 516-6 | 65-9240 | | 983-3 | | 641-6 | 106-0556 | | 858-3 |
| | 518-75 | 66-7033 | | 981-25 | | 643-75 | 106-5521 | | 856-25 |
| 2 | 520-83 | 67-4826 | 0-7708 | 979-16 | 14 | 645-83 | 107-0486 | 0-4549 | 854-16 |
| | 522-916 | 68-2635 | | 977-083 | | 647-916 | 107-5035 | | 852-083 |
| | 525-0 | 69-0243 | | 975-0 | | 650-0 | 107-9583 | | 850-0 |
| | 527-083 | 69-7951 | | 972-916 | | 652-083 | 108-4132 | | 847-916 |
| | 529-16 | 70-5660 | | 970-83 | | 654-16 | 108-8681 | | 845-83 |
| 3 | 531-25 | 71-3368 | 0-7604 | 968-75 | 15 | 656-25 | 109-3229 | 0-4132 | 843-75 |
| | 533-3 | 72-0972 | | 966-6 | | 658-3 | 109-7361 | | 841-6 |
| | 535-416 | 72-8576 | | 964-583 | | 660-416 | 110-1493 | | 839-583 |
| | 537-5 | 73-6181 | | 962-5 | | 662-5 | 110-5265 | | 837-5 |
| | 539-583 | 74-3785 | | 960-416 | | 664-583 | 110-9767 | | 835-416 |
| 4 | 541-6 | 75-1389 | 0-7465 | 958-3 | 16 | 666-6 | 111-3889 | 0-3681 | 833-3 |
| | 543-75 | 75-8954 | | 956-25 | | 668-75 | 111-7569 | | 831-25 |
| | 545-83 | 76-6519 | | 954-16 | | 670-83 | 112-1250 | | 829-16 |
| | 547-916 | 77-3785 | | 952-083 | | 672-916 | 112-4931 | | 827-083 |
| | 550-0 | 78-1250 | | 950-0 | | 675-0 | 112-8611 | | 825-0 |
| 5 | 552-083 | 78-8715 | 0-7292 | 947-916 | 17 | 677-083 | 113-2292 | 0-3229 | 822-916 |
| | 554-16 | 79-6007 | | 945-83 | | 679-16 | 113-5521 | | 820-83 |
| | 556-25 | 80-3299 | | 943-75 | | 681-25 | 113-8750 | | 818-75 |
| | 558-3 | 81-0590 | | 941-6 | | 683-3 | 114-1979 | | 816-6 |
| | 560-416 | 81-7882 | | 939-583 | | 685-416 | 114-5208 | | 814-583 |
| 6 | 562-5 | 82-5174 | 0-7118 | 937-5 | 18 | 687-5 | 114-8438 | 0-2743 | 812-5 |
| | 564-583 | 83-2292 | | 935-416 | | 689-583 | 115-1181 | | 810-416 |
| | 566-6 | 83-9410 | | 933-3 | | 691-6 | 115-3924 | | 808-3 |
| | 568-75 | 84-6528 | | 931-25 | | 693-75 | 115-6607 | | 806-25 |
| | 570-83 | 85-3646 | | 929-16 | | 695-83 | 115-9410 | | 804-16 |
| 7 | 572-916 | 86-0764 | 0-6910 | 927-083 | 19 | 697-916 | 116-2153 | 0-2257 | 802-083 |
| | 575-0 | 86-7674 | | 925-0 | | 700-0 | 116-4410 | | 800-0 |
| | 577-083 | 87-4583 | | 922-916 | | 702-083 | 116-6667 | | 797-916 |
| | 579-16 | 88-1493 | | 920-83 | | 704-16 | 116-8924 | | 795-83 |
| | 581-25 | 88-8403 | | 918-75 | | 706-25 | 117-1181 | | 793-75 |
| 8 | 583-3 | 89-5312 | 0-6632 | 916-6 | 20 | 708-3 | 117-3438 | 0-1771 | 791-6 |
| | 585-416 | 90-1944 | | 914-583 | | 710-416 | 117-5208 | | 789-583 |
| | 587-5 | 90-8570 | | 912-5 | | 712-5 | 117-6979 | | 787-5 |
| | 589-583 | 91-5208 | | 910-416 | | 714-583 | 117-8750 | | 785-416 |
| | 591-6 | 92-1840 | | 908-3 | | 716-6 | 118-0521 | | 783-3 |
| 9 | 593-75 | 92-8472 | 0-6354 | 906-25 | 21 | 718-75 | 118-2292 | 0-1285 | 781-25 |
| | 595-83 | 93-4826 | | 904-16 | | 720-83 | 118-3576 | | 779-16 |
| | 597-916 | 94-1181 | | 902-083 | | 722-916 | 118-4861 | | 777-083 |
| | 600-0 | 94-7535 | | 900-0 | | 725-0 | 118-6146 | | 775-0 |
| | 602-083 | 95-3889 | | 897-916 | | 727-083 | 118-7431 | | 772-916 |
| 10 | 604-16 | 96-0243 | 0-6042 | 895-83 | 22 | 729-16 | 118-8715 | 0-0756 | 770-83 |
| | 606-25 | 96-6285 | | 893-75 | | 731-25 | 118-9471 | | 768-75 |
| | 608-3 | 97-2326 | | 891-6 | | 733-3 | 119-0228 | | 766-6 |
| | 610-416 | 97-8368 | | 889-583 | | 735-416 | 119-0984 | | 764-583 |
| | 612-5 | 98-4410 | | 887-5 | | 737-5 | 119-1740 | | 762-5 |
| 11 | 614-583 | 99-0451 | 0-5674 | 885-416 | 23 | 739-583 | 119-2495 | 0-0251 | 760-416 |
| | 616-6 | 99-6146 | | 883-3 | | 741-6 | 119-3247 | | 758-3 |
| | 618-75 | 100-1840 | | 881-25 | | 743-75 | 119-3998 | | 756-25 |
| | 620-83 | 100-7535 | | 879-16 | | 745-83 | 119-3248 | | 754-16 |
| | 622-916 | 101-3229 | | 877-083 | | 747-916 | 119-3499 | | 752-083 |
| | | | | | 24 | 750-0 | 119-3750 | | 750-0 |

TABLE LXVIII.

INDICES OF TITHIS, KARANAS, YOGAS AND NAKSHATRAS, IN 10,000THS OF CIRCLE MEASUREMENT.

Indices of yugas "(y)" are numerically the same as those of nakshatras "(n)."

This Table corresponds to Table VIII, "Indian Calendar."

| TITHI AND KARANA. | | | | YOGA. | | NAKSHATRA. | | | | |
|-------------------|-----------------------|------------------|----------------------|-----------------------|--------------|---------------------------|------------------|---|--|-------------------|
| Serial number | No. in pakṣa or (unar | Tithi-index (t). | KARANA. | | Name. | No. of Yuga or Nakshatra. | Name. | Index of Nakshatra ("n") and Yuga ("y"), Ordinary (equal space) system. | INDEX OF ASCENDING POINT OF NAKSHATRA AND YOGA BY THE EQUAL SPACE SYSTEMS OF | |
| | | | First half of Tithi. | Second half of Tithi. | | | | | Garga. | Brahma Siddhanta. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | Sukla 1 | 0 — 323-3 | Kṛmstughna* | 1 Bava . | Vishakmbha . | 1 | Āśvini . . . | 0 — 370-370 | 370-370 | 306-0108 |
| 2 | 2 | 323-3 — 666-6 | 2 Bālava . | 3 Kaulava . | Prīti . . . | 2 | Bharanī . . . | 370-370 — 740-740 | 555-5 | 549-0051 |
| 3 | 3 | 666-6 — 1000 | 4 Taitila . | 5 Gara . . | Āyushmat . | 3 | Kṛttikā . . . | 740-740 — 1111-1 | 925-925 | 915-0270 |
| 4 | 4 | 1000 — 1333-3 | 6 Vapj . . . | 7 Viśatī . . | Saubhāgya . | 4 | Rohiṇī . . . | 1111-1 — 1481-481 | 1481-481 | 1464-0432 |
| 5 | 5 | 1333-3 — 1666-6 | 1 Bava . . . | 2 Bālava . . | Sobhana . . | 5 | Mṛgaśīrasa . . | 1481-481 — 1851-851 | 1851-851 | 1830-0540 |
| 6 | 6 | 1666-6 — 2000 | 3 Kaulava . | 4 Taitila . . | Atigunda . . | 6 | Ārdra . . . | 1851-851 — 2222-2 | 2037-037 | 2013-0594 |
| 7 | 7 | 2000 — 2333-3 | 5 Gara . . . | 6 Vapj . . . | Sukarman . . | 7 | Punarvasu . . | 2222-2 — 2592-592 | 2592-592 | 2562-0756 |
| 8 | 8 | 2333-3 — 2666-6 | 7 Viśatī . . | 1 Bava . . . | Dhṛitī . . . | 8 | Puṣya . . . | 2592-592 — 2962-962 | 2962-962 | 2928-0864 |
| 9 | 9 | 2666-6 — 3000 | 2 Bālava . . | 3 Kaulava . . | Sūla . . . | 9 | Āślekhā . . . | 2962-962 — 3333-3 | 3148-148 | 3111-0018 |
| 10 | 10 | 3000 — 3333-3 | 4 Taitila . . | 5 Gara . . . | Gayda . . . | 10 | Māghā . . . | 3333-3 — 3703-703 | 3518-518 | 3477-1026 |
| 11 | 11 | 3333-3 — 3666-6 | 5 Vapj . . . | 7 Viśatī . . | Vṛddhi . . . | 11 | Pūrva-Phalgunī . | 3703-703 — 4074-074 | 3888-8 | 3843-1134 |

| | | | | | | | | | | |
|----------|----|---------------|---------------|-------------|-------------|-----|---------------------|-------------------|----------|------------|
| 12 | 12 | 3653-6-4000 | 1 Bava . | 2 Bālava . | Dhruva . | 12 | Uttara-Phalguni . | 4074-074-4444-4 | 4444 4 | 4392-1200 |
| 13 | 13 | 4000-4333-3 | 3 Kaulava . | 4 Taitila . | Vyāghrāta . | 13 | Hasta . | 4444-4-4814-814 | 4814-814 | 4768-1404 |
| 14 | 14 | 4333-3-4666-6 | 5 Gara . | 6 Vajij . | Harshaṇa . | 14 | Chitrā . | 4814-814-5185-185 | 5185-185 | 5124-1312 |
| 15 | 15 | 4666-6-5000 | 7 Viśhti . | 1 Bava . | Vajra . | 15 | Svāti . | 5185-185-5555-5 | 5555-5 | 5307-1506 |
| Kṛtiṅga. | | | | | | | | | | |
| 16 | 1 | 5000-5333-3 | 2 Bālava . | 3 Kaulava . | Siddhi† . | 16 | Vishākhā . | 5555-5-5925-925 | 5925-925 | 5859-1728 |
| 17 | 2 | 5333-3-5666-6 | 4 Taitila . | 5 Gara . | Vyatiṇṇā . | 17 | Anurādhā . | 5925-925-6296-296 | 6296-296 | 6222-1836 |
| 18 | 3 | 5666-6-6000 | 6 Vajij . | 7 Viśhti . | Variyas . | 18 | Jyēsthā . | 6296-296-6666-6 | 6666-6 | 6481-1899 |
| 19 | 4 | 6000-6333-3 | 1 Bava . | 2 Bālava . | Parigha . | 19 | Mūla . | 6666-6-7037-037 | 7037-037 | 6771-1998 |
| 20 | 5 | 6333-3-6666-6 | 3 Kaulava . | 4 Taitila . | Śiva . | 20 | Pūrva-Aśvadhā . | 7037-037-7407-407 | 7407-407 | 7137-2106 |
| 21 | 6 | 6666-6-7000 | 5 Gara . | 6 Vajij . | Siddha . | 21 | Uttara-Aśvadhā . | 7407-407-7777-7 | 7777-7 | 7086-2269‡ |
| 22 | 7 | 7000-7333-3 | 7 Viśhti . | 1 Bava . | ... | ... | Abhijit§ . | ... | ... | 7803-9354§ |
| 23 | 8 | 7333-3-7666-6 | 2 Bālava . | 3 Kaulava . | Śādhya . | 22 | Śravana . | 7777-7-8148-148 | 8148-148 | 8169-9460 |
| 24 | 9 | 7666-6-8000 | 4 Taitila . | 5 Gara . | Subha . | 23 | Dhanishṭhā§§ . | 8148-148-8518-518 | 8518-518 | 8335-9568 |
| 25 | 10 | 8000-8333-3 | 6 Vajij . | 7 Viśhti . | Sukla . | 24 | Śatabhishaj¶ . | 8518-518-8888-8 | 8703-703 | 8718-9622 |
| 26 | 11 | 8333-3-8666-6 | 1 Bava . | 2 Bālava . | Brahman . | 25 | Pūrva-Bhadrapadā . | 8888-8-9259-259 | 9074-074 | 9084-9730 |
| 27 | 12 | 8666-6-9000 | 3 Kaulava . | 4 Taitila . | Indra . | 26 | Uttara-Bhadrapadā . | 9259-259-9629-629 | 9629-629 | 9633-9892 |
| 28 | 13 | 9000-9333-3 | 5 Gara . | 6 Vajij . | Valdhriti . | 27 | Révatī . | 9629-629-10,000 | 10,000 | 10,000 |
| 29 | 14 | 9333-3-9666-6 | 7 Viśhti . | 8 Kauli . | ... | ... | ... | ... | ... | ... |
| 30 | 15 | 9666-6-10,000 | Chatushpada . | Nigra . | ... | ... | ... | ... | ... | ... |

* or Kintughna.

† Viśhti is also called Bhadrā, or Kalyāṇī.

‡ or Aarj.

§ The figures given in Col. 10 follow the limits of Abhijit as given in the "Indian Calendar," p. 22, viz., from 27° 42' 15" to 28° 58' 30". Professor Jacobi and Dr. Burgess, however, give these limits as from 27° 40' to 28° 40' (*Epig. Ind. I., p. 449; Journal R. A. S., 1893, p. 765*). If they are correct, Abhijit (Col. 10) should be read as beginning at 7683-1832 and ending at 7824-074.

¶ or Śatabhishā.

§§ or Śravishtā.

TABLE LXIX.

SERIAL NUMBER OF DAYS IN A YEAR A.D. FOR TWO CONSECUTIVE YEARS.

N.B.—The numbers given are those in a common year. In Leap-years, after February 29, the day of the month must be reduced by 1. Thus Day 153, in a Leap-year, is not June 2, but June 1.

The Table is the same as Table IX, "Indian Calendar."

PART I.

| Day of month. | NUMBER OF DAYS RECKONED FROM 1ST JANUARY OF THE SAME YEAR. | | | | | | | | | | | | Day of month. |
|---------------|--|------|------|--------|------|-------|-------|------|-------|------|------|------|---------------|
| | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |
| 1 | 1 | 32 | 60 | 91 | 121 | 152 | 182 | 213 | 244 | 274 | 305 | 335 | 1 |
| 2 | 2 | 33 | 61 | 92 | 122 | 153 | 183 | 214 | 245 | 275 | 306 | 336 | 2 |
| 3 | 3 | 34 | 62 | 93 | 123 | 154 | 184 | 215 | 246 | 276 | 307 | 337 | 3 |
| 4 | 4 | 35 | 63 | 94 | 124 | 155 | 185 | 216 | 247 | 277 | 308 | 338 | 4 |
| 5 | 5 | 36 | 64 | 95 | 125 | 156 | 186 | 217 | 248 | 278 | 309 | 339 | 5 |
| 6 | 6 | 37 | 65 | 96 | 126 | 157 | 187 | 218 | 249 | 279 | 310 | 340 | 6 |
| 7 | 7 | 38 | 66 | 97 | 127 | 158 | 188 | 219 | 250 | 280 | 311 | 341 | 7 |
| 8 | 8 | 39 | 67 | 98 | 128 | 159 | 189 | 220 | 251 | 281 | 312 | 342 | 8 |
| 9 | 9 | 40 | 68 | 99 | 129 | 160 | 190 | 221 | 252 | 282 | 313 | 343 | 9 |
| 10 | 10 | 41 | 69 | 100 | 130 | 161 | 191 | 222 | 253 | 283 | 314 | 344 | 10 |
| 11 | 11 | 42 | 70 | 101 | 131 | 162 | 192 | 223 | 254 | 284 | 315 | 345 | 11 |
| 12 | 12 | 43 | 71 | 102 | 132 | 163 | 193 | 224 | 255 | 285 | 316 | 346 | 12 |
| 13 | 13 | 44 | 72 | 103 | 133 | 164 | 194 | 225 | 256 | 286 | 317 | 347 | 13 |
| 14 | 14 | 45 | 73 | 104 | 134 | 165 | 195 | 226 | 257 | 287 | 318 | 348 | 14 |
| 15 | 15 | 46 | 74 | 105 | 135 | 166 | 196 | 227 | 258 | 288 | 319 | 349 | 15 |
| 16 | 16 | 47 | 75 | 106 | 136 | 167 | 197 | 228 | 259 | 289 | 320 | 350 | 16 |
| 17 | 17 | 48 | 76 | 107 | 137 | 168 | 198 | 229 | 260 | 290 | 321 | 351 | 17 |
| 18 | 18 | 49 | 77 | 108 | 138 | 169 | 199 | 230 | 261 | 291 | 322 | 352 | 18 |
| 19 | 19 | 50 | 78 | 109 | 139 | 170 | 200 | 231 | 262 | 292 | 323 | 353 | 19 |
| 20 | 20 | 51 | 79 | 110 | 140 | 171 | 201 | 232 | 263 | 293 | 324 | 354 | 20 |
| 21 | 21 | 52 | 80 | 111 | 141 | 172 | 202 | 233 | 264 | 294 | 325 | 355 | 21 |
| 22 | 22 | 53 | 81 | 112 | 142 | 173 | 203 | 234 | 265 | 295 | 326 | 356 | 22 |
| 23 | 23 | 54 | 82 | 113 | 143 | 174 | 204 | 235 | 266 | 296 | 327 | 357 | 23 |
| 24 | 24 | 55 | 83 | 114 | 144 | 175 | 205 | 236 | 267 | 297 | 328 | 358 | 24 |
| 25 | 25 | 56 | 84 | 115 | 145 | 176 | 206 | 237 | 268 | 298 | 329 | 359 | 25 |
| 26 | 26 | 57 | 85 | 116 | 146 | 177 | 207 | 238 | 269 | 299 | 330 | 360 | 26 |
| 27 | 27 | 58 | 86 | 117 | 147 | 178 | 208 | 239 | 270 | 300 | 331 | 361 | 27 |
| 28 | 28 | 59 | 87 | 118 | 148 | 179 | 209 | 240 | 271 | 301 | 332 | 362 | 28 |
| 29 | 29 | 60 | 88 | 119 | 149 | 180 | 210 | 241 | 272 | 302 | 333 | 363 | 29 |
| 30 | 30 | ... | 89 | 120 | 150 | 181 | 211 | 242 | 273 | 303 | 334 | 364 | 30 |
| 31 | 31 | ... | 90 | ... | 151 | ... | 212 | 243 | ... | 304 | ... | 365 | 31 |
| | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |

TABLE LXIX—*Contd.*

SERIAL NUMBER OF DAYS IN A YEAR A.D. FOR TWO CONSECUTIVE YEARS.

N. B.—When the previous year was a Leap-year, the days of the month must all be reduced by 1; and so all those after February 29, when the given year is a Leap-year.

PART II.

| Day of month. | NUMBER OF DAYS RECKONED FROM 1 JANUARY OF THE PRECEDING YEAR. | | | | | | | | | | | | Day of month. |
|---------------|---|------|------|--------|------|-------|-------|------|-------|------|------|------|---------------|
| | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |
| 1 | 366 | 397 | 425 | 456 | 486 | 517 | 547 | 578 | 609 | 639 | 670 | 700 | 1 |
| 2 | 367 | 398 | 426 | 457 | 487 | 518 | 548 | 579 | 610 | 640 | 671 | 701 | 2 |
| 3 | 368 | 399 | 427 | 458 | 488 | 519 | 549 | 580 | 611 | 641 | 672 | 702 | 3 |
| 4 | 369 | 400 | 428 | 459 | 489 | 520 | 550 | 581 | 612 | 642 | 673 | 703 | 4 |
| 5 | 370 | 401 | 429 | 460 | 490 | 521 | 551 | 582 | 613 | 643 | 674 | 704 | 5 |
| 6 | 371 | 402 | 430 | 461 | 491 | 522 | 552 | 583 | 614 | 644 | 675 | 705 | 6 |
| 7 | 372 | 403 | 431 | 462 | 492 | 523 | 553 | 584 | 615 | 645 | 676 | 706 | 7 |
| 8 | 373 | 404 | 432 | 463 | 493 | 524 | 554 | 585 | 616 | 646 | 677 | 707 | 8 |
| 9 | 374 | 405 | 433 | 464 | 494 | 525 | 555 | 586 | 617 | 647 | 678 | 708 | 9 |
| 10 | 375 | 406 | 434 | 465 | 495 | 526 | 556 | 587 | 618 | 648 | 679 | 709 | 10 |
| 11 | 376 | 407 | 435 | 466 | 496 | 527 | 557 | 588 | 619 | 649 | 680 | 710 | 11 |
| 12 | 377 | 408 | 436 | 467 | 497 | 528 | 558 | 589 | 620 | 650 | 681 | 711 | 12 |
| 13 | 378 | 409 | 437 | 468 | 498 | 529 | 559 | 590 | 621 | 651 | 682 | 712 | 13 |
| 14 | 379 | 410 | 438 | 469 | 499 | 530 | 560 | 591 | 622 | 652 | 683 | 713 | 14 |
| 15 | 380 | 411 | 439 | 470 | 500 | 531 | 561 | 592 | 623 | 653 | 684 | 714 | 15 |
| 16 | 381 | 412 | 440 | 471 | 501 | 532 | 562 | 593 | 624 | 654 | 685 | 715 | 16 |
| 17 | 382 | 413 | 441 | 472 | 502 | 533 | 563 | 594 | 625 | 655 | 686 | 716 | 17 |
| 18 | 383 | 414 | 442 | 473 | 503 | 534 | 564 | 595 | 626 | 656 | 687 | 717 | 18 |
| 19 | 384 | 415 | 443 | 474 | 504 | 535 | 565 | 596 | 627 | 657 | 688 | 718 | 19 |
| 20 | 385 | 416 | 444 | 475 | 505 | 536 | 566 | 597 | 628 | 658 | 689 | 719 | 20 |
| 21 | 386 | 417 | 445 | 476 | 506 | 537 | 567 | 598 | 629 | 659 | 690 | 720 | 21 |
| 22 | 387 | 418 | 446 | 477 | 507 | 538 | 568 | 599 | 630 | 660 | 691 | 721 | 22 |
| 23 | 388 | 419 | 447 | 478 | 508 | 539 | 569 | 600 | 631 | 661 | 692 | 722 | 23 |
| 24 | 389 | 420 | 448 | 479 | 509 | 540 | 570 | 601 | 632 | 662 | 693 | 723 | 24 |
| 25 | 390 | 421 | 449 | 480 | 510 | 541 | 571 | 602 | 633 | 663 | 694 | 724 | 25 |
| 26 | 391 | 422 | 450 | 481 | 511 | 542 | 572 | 603 | 634 | 664 | 695 | 725 | 26 |
| 27 | 392 | 423 | 451 | 482 | 512 | 543 | 573 | 604 | 635 | 665 | 696 | 726 | 27 |
| 28 | 393 | 424 | 452 | 483 | 513 | 544 | 574 | 605 | 636 | 666 | 697 | 727 | 28 |
| 29 | 394 | 425 | 453 | 484 | 514 | 545 | 575 | 606 | 637 | 667 | 698 | 728 | 29 |
| 30 | 395 | ... | 454 | 485 | 515 | 546 | 576 | 607 | 638 | 668 | 699 | 729 | 30 |
| 31 | 396 | ... | 455 | ... | 516 | ... | 577 | 608 | ... | 669 | ... | 730 | 31 |
| | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |

TABLE LXXI.
THE EUROPEAN CALENDAR.

| A. INITIAL DAYS OF CENTURIES, JULIAN AND GREGORIAN CALENDARS. | | | | | | | | | | | | | B. WEEK-DAYS FOR ONE YEAR, APPLICABLE TO BOTH OLD AND NEW STYLE DATES. | | | | | | | | | | | | |
|---|----------------|-----|-----|-----|-----|-----|------------|------|------|------|------|------|--|-------------------------|------|------|-------|-----|------|------|------|-------|------|-----------------------|------|
| Odd years of centuries. | Centuries A.D. | | | | | | | | | | | | Leap-years. | Months in Common-years. | | | | | | | | | | Months in Leap-years. | |
| | Old Style. | | | | | | New Style. | | | | | | | S | Mo | Tu | W | Th | Fr | Sa | | | | | |
| | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 1500 | 1600 | 1700 | 1800 | 1900 | | | | | | | | | 2000 | 2100 | 2200 | | 2300 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial days. | | | | | | | | | | | | | L.Y. | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | L.Y. | |
| | | | | | | | | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 0 28 56 | 84 | Th | W | Tu | Mo | S | Sa | Fr | Sa | Th | Tu | S | L.Y. | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | L.Y. | |
| 1 29 57 | 85 | Sa | Fr | Th | W | Tu | Mo | S | Mo | Sa | Th | Tu | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | | | |
| 2 30 58 | 86 | S | Sa | Fr | Th | W | Tu | Mo | Tu | S | Fr | W | L.Y. | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | L.Y. | |
| 3 31 59 | 87 | Mo | S | Sa | Fr | Th | W | Tu | W | Mo | Sa | Th | | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | | |
| 4 32 60 | 88 | Tu | Mo | S | Sa | Fr | Th | W | Th | Tu | S | Fr | L.Y. | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | L.Y. | |
| 5 33 61 | 89 | Th | W | Tu | Mo | S | Sa | Fr | Sa | Th | Tu | S | | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | | |
| 6 34 62 | 90 | Fr | Th | W | Tu | Mo | S | Sa | S | Fr | W | Mo | L.Y. | 26 | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | L.Y. | |
| 7 35 63 | 91 | Sa | Fr | Th | W | Tu | Mo | S | Mo | Sa | Th | Tu | | 27 | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | | |
| 8 36 64 | 92 | S | Sa | Fr | Th | W | Tu | Mo | Tu | S | Fr | W | L.Y. | 28 | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | 6 | L.Y. | |
| 9 37 65 | 93 | Tu | Mo | S | Sa | Fr | Th | W | Th | Tu | S | Fr | | 29 | 30 | 31 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | |
| 10 38 66 | 94 | W | Tu | Mo | S | Sa | Fr | Th | Fr | W | Mo | Sa | L.Y. | 30 | 31 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | L.Y. | |
| 11 39 67 | 95 | Th | W | Tu | Mo | S | Sa | Fr | Sa | Th | Tu | S | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 12 40 68 | 96 | Fr | Th | W | Tu | Mo | S | Sa | S | Fr | W | Mo | L.Y. | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | L.Y. | |
| 13 41 69 | 97 | S | Sa | Fr | Th | W | Tu | Mo | Tu | S | Fr | W | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| 14 42 70 | 98 | Mo | S | Sa | Fr | Th | W | Tu | W | Mo | Sa | Th | L.Y. | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | L.Y. | |
| 15 43 71 | 99 | Tu | Mo | S | Sa | Fr | Th | W | Th | Tu | S | Fr | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | |
| 16 44 72 | 100 | W | Tu | Mo | S | Sa | Fr | Th | Fr | W | Mo | Sa | L.Y. | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | L.Y. | |
| 17 45 73 | | Fr | Th | W | Tu | Mo | S | Sa | S | Fr | W | Mo | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | |
| 18 46 74 | | Sa | Fr | Th | W | Tu | Mo | S | Mo | Sa | Th | Tu | L.Y. | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | L.Y. | |
| 19 47 75 | | S | Sa | Fr | Th | W | Tu | Mo | Tu | S | Fr | W | | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | |
| 20 48 76 | | Mo | S | Sa | Fr | Th | W | Tu | W | Mo | Sa | Th | L.Y. | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | L.Y. | |
| 21 49 77 | | W | Tu | Mo | S | Sa | Fr | Th | Fr | W | Mo | Sa | | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
| 22 50 78 | | Th | W | Tu | Mo | S | Sa | Fr | Sa | Th | Tu | S | L.Y. | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | L.Y. | |
| 23 51 79 | | Fr | Th | W | Tu | Mo | S | Sa | S | Fr | W | Mo | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | | |
| 24 52 80 | | Sa | Fr | Th | W | Tu | Mo | S | Mo | Sa | Th | Tu | L.Y. | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | L.Y. | |
| 25 53 81 | | Mo | S | Sa | Fr | Th | W | Tu | W | Mo | Sa | Th | | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | |
| 26 54 82 | | Tu | Mo | S | Sa | Fr | Th | W | Th | Tu | S | Fr | L.Y. | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | L.Y. | |
| 27 55 83 | | W | Tu | Mo | S | Sa | Fr | Th | Fr | W | Mo | Sa | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | | |

To find the initial day of a given year A.D. take the day marked in Section A, perpendicular under the given century and horizontal opposite the given year. Note this initial day in column 2 of the heading of Section B. Find the given day of month in the body of Section B. Run up to the week-day in horizontal line with the initial day in the heading. The day so found is the week-day of the given day of month and year.

E.g. Wanted week-day of 23rd March, A.D. 645. At junction of century 600 (perpendicular) and 45 (horizontal) in Section A is Saturday. This was the initial day of A.D. 645. The year was common. The week-day noted in the heading of Section B at the junction of 23rd March (perpendicular) and of "Sa." in column 2 of heading (horizontal) is "W." Wednesday. Therefore 23rd March, A.D. 645, was a Wednesday.

In common years work with the month on left, in leap-years with that on right.

N.B.—In the New Style the years 1600 and 2000 are leap-years, but 1700, 1800, 1900 are common years. The initial week-day of the first year of each New Style century is given above it in heading of Section A. For the initial week-day of other years of the century look for the day in the junction of columns as mentioned above; e.g., A.D. 1900 began (top) on Monday. 1901 began (junction of columns) on Tuesday. 1928 begins on Sunday. 1919 began on Wednesday.

TABLE LXXII.

VALUE OF a , b , c AT BEGINNING OF CENTURIES OF THE KALIYUGA BY THE FIRST ARYA-SIDDHĀNTA
AT MEAN SUNRISE ON DAY OF OCCURRENCE OF MEAN MESHA-SAMKRĀNTI, WHICH IS THE
MOMENT WHEN MEAN SUN REACHES LONGITUDE 0° .

| Century. | Week-day. | a . | b . | c . |
|----------|-----------|-----------|----------|----------|
| 36 | 0 | 7177-6056 | 135-4688 | 279-9111 |
| 37 | 0 | 6045-4346 | 723-3175 | 280-2723 |
| 38 | 0 | 4913-2637 | 311-1661 | 280-6336 |
| 39 | 0 | 3781-0927 | 899-0148 | 280-9948 |
| 40 | 0 | 2648-9218 | 486-8635 | 281-3560 |
| 41 | 0 | 1516-7509 | 74-7121 | 281-7172 |
| 42 | 0 | 384-5799 | 662-5608 | 282-0784 |
| 43 | 6 | 8913-7771 | 214-1179 | 279-7019 |
| 44 | 6 | 7781-6062 | 801-9665 | 280-0631 |
| 45 | 0 | 6649-4352 | 389-8152 | 280-4243 |
| 46 | 6 | 5517-2643 | 977-6639 | 280-7855 |
| 47 | 6 | 4385-0933 | 565-5125 | 281-1467 |
| 48 | 6 | 3252-9224 | 153-3612 | 281-5079 |
| 49 | 6 | 2120-7515 | 741-2099 | 281-8692 |
| 50 | 5 | 649-9486 | 292-7669 | 279-492 |

N. B.—The value of " b ", the ζ a mean anomaly, is given as estimated by Professor Jacobi. The present author estimates its value as less than the given amount by 2.5. In a very close case both valuations may be tried.

TABLE LXXIII.

INCREASE OF a , b , c FOR YEARS OF THE K. Y. CENTURY BY THE ĀRYA-SIDDHĀNTA.

* Years thus marked are years of 366 days, the rest of 365 each.

| Year. | W.d. | a. | b. | c. | Year. | W.d. | a. | b. | c. |
|-------|------|-----------|----------|----------|-------|------|-----------|----------|----------|
| 0 | 0 | 0 | 0 | 0 | 50 | 0 | 4433-9145 | 793-9243 | 0-1806 |
| 1 | 1 | 3600-6340 | 246-4427 | 999-2018 | 51 | 1 | 8034-5485 | 40-3670 | 999-4724 |
| *2 | 2 | 7201-2680 | 492-8853 | 998-5836 | *52 | 2 | 1635-1825 | 286-8097 | 998-7642 |
| 3 | 4 | 1140-5339 | 775-6196 | 0-6131 | 53 | 4 | 5574-4484 | 569-5439 | 0-7938 |
| 4 | 5 | 4741-1679 | 22-0023 | 999-9049 | 54 | 5 | 9175-0824 | 815-9866 | 0-0855 |
| 5 | 6 | 8341-8019 | 268-5049 | 999-1967 | 55 | 6 | 2775-7164 | 62-4293 | 999-3773 |
| *6 | 0 | 1942-4359 | 514-9476 | 998-4885 | *56 | 0 | 6376-3504 | 308-8719 | 998-6691 |
| 7 | 2 | 5881-7018 | 797-6819 | 0-5181 | 57 | 2 | 315-6163 | 591-6062 | 0-6987 |
| 8 | 3 | 9482-3358 | 44-1246 | 999-8099 | 58 | 3 | 3916-2503 | 838-0489 | 999-9905 |
| 9 | 4 | 3082-9698 | 290-5672 | 999-1017 | 59 | 4 | 7516-8843 | 84-4916 | 999-2823 |
| *10 | 5 | 6683-6038 | 537-0099 | 998-3934 | *60 | 5 | 1117-5183 | 330-9342 | 998-5741 |
| 11 | 0 | 622-8697 | 819-7442 | 0-4230 | 61 | 0 | 5056-7842 | 613-6685 | 0-6036 |
| 12 | 1 | 4223-5037 | 66-1868 | 999-7148 | 62 | 1 | 8657-4182 | 860-1112 | 999-8954 |
| *13 | 2 | 7824-1377 | 312-6295 | 999-0066 | 63 | 2 | 2258-0522 | 106-5538 | 999-1872 |
| 14 | 4 | 1763-4035 | 595-3638 | 1-0362 | *64 | 3 | 5858-6862 | 352-9965 | 998-4790 |
| 15 | 5 | 5364-0375 | 841-8065 | 0-3280 | 65 | 5 | 9797-9521 | 635-7308 | 0-5086 |
| 16 | 6 | 8964-6716 | 88-2491 | 999-6197 | 66 | 6 | 3398-5861 | 882-1735 | 999-8004 |
| *17 | 0 | 2565-3056 | 334-6918 | 998-9115 | 67 | 0 | 6990-2201 | 128-6161 | 999-0021 |
| 18 | 2 | 6504-6714 | 617-4261 | 0-9411 | *68 | 1 | 599-8541 | 375-0588 | 998-3839 |
| 19 | 3 | 105-2054 | 863-8687 | 0-2329 | 69 | 3 | 4539-1200 | 657-7931 | 0-4135 |
| 20 | 4 | 3705-8394 | 110-3114 | 999-5247 | 70 | 4 | 8139-7540 | 994-2357 | 999-7063 |
| *21 | 5 | 7306-4734 | 356-7541 | 998-8165 | *71 | 5 | 1740-3880 | 150-6784 | 998-9971 |
| 22 | 6 | 1245-7393 | 639-4884 | 0-8460 | 72 | 0 | 5679-6539 | 433-4127 | 1-0267 |
| 23 | 1 | 4846-3733 | 885-9310 | 0-1378 | 73 | 1 | 9280-2879 | 679-8554 | 0-3184 |
| 24 | 2 | 8447-0073 | 132-3737 | 999-4296 | 74 | 2 | 2880-9219 | 926-2980 | 999-6102 |
| *25 | 3 | 2047-6413 | 378-8164 | 998-7214 | *75 | 3 | 6481-5559 | 172-7407 | 998-9020 |
| 26 | 5 | 6986-9072 | 661-5506 | 0-7510 | 76 | 5 | 420-8217 | 455-4750 | 0-9316 |
| 27 | 6 | 9587-5412 | 907-9933 | 0-0428 | 77 | 6 | 4921-4557 | 701-9176 | 0-2234 |
| 28 | 0 | 3188-1752 | 154-4360 | 999-3346 | 78 | 0 | 7622-0897 | 948-3603 | 999-5152 |
| *29 | 1 | 6788-8092 | 400-8786 | 998-6263 | *79 | 1 | 1222-7238 | 194-8030 | 998-8070 |
| 30 | 3 | 728-0751 | 683-6129 | 0-6559 | 80 | 3 | 5161-9896 | 477-5372 | 0-8365 |
| 31 | 4 | 4328-7091 | 930-0556 | 999-9477 | 81 | 4 | 8762-6236 | 723-9799 | 0-1283 |
| 32 | 5 | 7929-3431 | 176-4982 | 999-2395 | 82 | 5 | 2363-2576 | 970-4226 | 999-4201 |
| *33 | 6 | 1529-9771 | 422-9409 | 998-5313 | *83 | 6 | 5963-8916 | 216-8652 | 998-7119 |
| 34 | 1 | 5469-2430 | 705-6752 | 0-5609 | 84 | 1 | 9903-1576 | 499-5995 | 0-7415 |
| 35 | 2 | 9069-8770 | 952-1179 | 999-8526 | 85 | 2 | 3503-7915 | 746-0422 | 0-0332 |
| 36 | 3 | 2670-5110 | 198-5605 | 999-1444 | *87 | 3 | 7104-4255 | 992-4849 | 999-3250 |
| *37 | 4 | 6271-1450 | 445-0032 | 998-4362 | 88 | 4 | 705-0595 | 238-9275 | 998-6168 |
| 38 | 5 | 210-4109 | 727-7375 | 0-4658 | 89 | 5 | 4644-3264 | 521-6618 | 0-6464 |
| 39 | 0 | 3811-0449 | 974-1801 | 999-7576 | 90 | 0 | 5244-9594 | 768-1045 | 999-9282 |
| 40 | 1 | 7411-6789 | 220-6228 | 999-0494 | 91 | 1 | 1845-5934 | 14-5471 | 999-2300 |
| *41 | 2 | 1612-3129 | 467-0655 | 998-3412 | *91 | 2 | 5446-2274 | 260-9898 | 998-5218 |
| 42 | 4 | 4951-5788 | 749-7998 | 0-3707 | 92 | 4 | 9385-4933 | 543-7241 | 0-5513 |
| 43 | 5 | 8552-2128 | 996-2424 | 999-6625 | 93 | 5 | 2986-1273 | 790-1668 | 999-8431 |
| *44 | 6 | 2152-8468 | 242-6851 | 998-9543 | 94 | 6 | 6586-7613 | 36-6094 | 999-1349 |
| 45 | 1 | 6092-1126 | 525-4194 | 0-9839 | *95 | 0 | 187-3953 | 283-0521 | 998-4267 |
| 46 | 2 | 9692-7466 | 771-8620 | 0-2757 | 96 | 2 | 4125-8612 | 565-7864 | 0-4563 |
| 47 | 5 | 5203-3806 | 18-3047 | 999-5675 | 97 | 3 | 7727-2952 | 812-2200 | 999-7481 |
| *48 | 4 | 6894-0147 | 264-7474 | 998-8592 | *99 | 4 | 1327-9292 | 58-6717 | 999-0398 |
| 49 | 6 | 833-2803 | 567-6817 | 0-8888 | 100 | 5 | 4928-5632 | 305-1144 | 998-3316 |
| | | | | | | 0 | 8867-8291 | 557-8487 | 0-3612 |

TABLE LXXIV.

DAILY VALUES OF a , b , c FROM 0 MĪNA TO 2 MĒSHA.

For calculation of their value at mean sunrise on the day Chaitra Sukla 1.

| Interval of days from true Mēsha-samkrānti. | Day of Solar month. | Week day. | a . | b . | c . |
|---|---------------------|-----------|-----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 30 | Mina 0 | 3 | 9163-7800 | 838-6681 | 912-3908 |
| 29 | " 1 | 4 | 9502-4119 | 874-9597 | 915-1286 |
| 28 | " 2 | 5 | 9841-0438 | 911-2513 | 917-8664 |
| 27 | " 3 | 6 | 179-6756 | 947-5429 | 920-6042 |
| 26 | " 4 | 0 | 518-3075 | 983-8345 | 923-3420 |
| 25 | " 5 | 1 | 856-9394 | 20-1262 | 926-0798 |
| 24 | " 6 | 2 | 1195-5713 | 56-4178 | 928-8176 |
| 23 | " 7 | 3 | 1534-2032 | 92-7094 | 931-5554 |
| 22 | " 8 | 4 | 1872-8350 | 129-0010 | 934-2931 |
| 21 | " 9 | 5 | 2211-4669 | 165-2927 | 937-0309 |
| 20 | " 10 | 6 | 2550-0988 | 201-5843 | 939-7687 |
| 19 | " 11 | 0 | 2888-7306 | 237-8759 | 942-5065 |
| 18 | " 12 | 1 | 3227-3625 | 274-1675 | 945-2443 |
| 17 | " 13 | 2 | 3565-9944 | 310-4591 | 947-9821 |
| 16 | " 14 | 3 | 3904-6263 | 346-7508 | 950-7199 |
| 15 | " 15 | 4 | 4243-2581 | 383-0424 | 953-4576 |
| 14 | " 16 | 5 | 4581-8900 | 419-3340 | 956-1954 |
| 13 | " 17 | 6 | 4920-5219 | 455-6256 | 958-9332 |
| 12 | " 18 | 0 | 5259-1538 | 491-9173 | 961-6710 |
| 11 | " 19 | 1 | 5597-7856 | 528-2089 | 964-4088 |
| 10 | " 20 | 2 | 5936-4175 | 564-5005 | 967-1466 |
| 9 | " 21 | 3 | 6275-0494 | 600-7921 | 969-8844 |
| 8 | " 22 | 4 | 6613-6813 | 637-0838 | 972-6221 |
| 7 | " 23 | 5 | 6952-3131 | 673-3754 | 975-3599 |
| 6 | " 24 | 6 | 7290-9450 | 709-6670 | 978-0977 |
| 5 | " 25 | 0 | 7629-5769 | 745-9586 | 980-8355 |
| 4 | " 26 | 1 | 7968-2088 | 782-2503 | 983-5733 |
| 3 | " 27 | 2 | 8306-8406 | 818-5419 | 986-3111 |
| 2 | " 28 | 3 | 8645-4725 | 854-8335 | 989-0489 |
| 1 | " 29 | 4 | 8984-1044 | 891-1251 | 991-7866 |
| | Mēsha 0 | 5 | 9322-7363 | 927-4168 | 994-5244 |
| | " 1 | 6 | 9661-3681 | 963-7084 | 997-2622 |
| | " 2 | 0 | 0 | 0 | 0 |

The figures for Mēsha 0 are those for mean sunrise on the day when true Mēsha-samkrānti occurred, i.e., on the day when true sun reached long. 0°.

The table serves equally for calculation from the day of mean Mēsha-samkrānti by noting the interval of days

TABLE LXXV.

MOON'S EQUATION OF CENTRE BY THE FIRST ĀRYA-SIDDHĀNTA.

(For equation of sun's centre see Table XLVII, above.)

| Serial No. of sine. | Moon's mean anomaly. | | SINE OF MEAN ANOM. ANGLE. | | EQUATION. | | | Moon's mean anomaly. | | Serial No. of sine. |
|---------------------------|-------------------------|---------|------------------------------|------------------|-------------------------|---------------------------------|---------------------------------------|-------------------------|---------|---------------------------|
| | | | Value in mi- nutes. | Diff- erence. | Equation in degrees. | Diff. per minute of anom. | Equation in 10,000th of circle. | | | |
| 1 | 2 | | 3 | 4 | 5 | 6 | 7 | 8 | | 9 |
| 0 | 0° 0' | 180° 0' | 0' | 225 | 0° 0' 0" | 5.250 | 0 | 180° 0' | 360° 0' | 0 |
| 1 | 3 45 | 176 15 | 225 | 224 | 0 19 41.25 | 5.226 | 9.114583 | 183 45 | 356 15 | 1 |
| 2 | 7 30 | 172 30 | 449 | 222 | 0 39 17.25 | 5.180 | 18.188657 | 187 30 | 352 30 | 2 |
| 3 | 11 15 | 168 45 | 671 | 219 | 0 58 42.75 | 5.110 | 27.181713 | 191 15 | 348 45 | 3 |
| 4 | 15 0 | 165 0 | 890 | 215 | 1 17 52.5 | 5.016 | 36.053240 | 195 0 | 345 0 | 4 |
| 5 | 18 45 | 161 15 | 1105 | 210 | 1 36 41.25 | 4.900 | 44.762730 | 198 45 | 341 15 | 5 |
| 6 | 22 30 | 157 30 | 1315 | 205 | 1 55 3.75 | 4.783 | 53.260675 | 202 30 | 337 30 | 6 |
| 7 | 26 15 | 153 45 | 1520 | 199 | 2 13 0.0 | 4.643 | 61.574074 | 206 15 | 333 45 | 7 |
| 8 | 30 0 | 150 0 | 1719 | 191 | 2 30 24.75 | 4.456 | 69.635415 | 210 0 | 330 0 | 8 |
| 9 | 33 45 | 146 15 | 1910 | 183 | 2 47 7.5 | 4.270 | 77.372684 | 213 45 | 326 15 | 9 |
| 10 | 37 30 | 142 30 | 2093 | 174 | 3 3 8.25 | 4.060 | 84.785878 | 217 30 | 322 30 | 10 |
| 11 | 41 15 | 138 45 | 2267 | 164 | 3 18 21.75 | 3.826 | 91.834490 | 221 15 | 318 45 | 11 |
| 12 | 45 0 | 135 0 | 2431 | 154 | 3 32 42.75 | 3.5947 | 98.478009 | 225 0 | 315 0 | 12 |
| 13 | 48 45 | 131 15 | 2585 | 143 | 3 46 11.5081 | 3.3516 | 104.718890 | 228 45 | 311 15 | 13 |
| 14 | 52 30 | 127 30 | 2728 | 131 | 3 58 45.6696 | 3.0603 | 110.537572 | 232 30 | 307 30 | 14 |
| 15 | 56 15 | 123 45 | 2859 | 119 | 4 10 16.4900 | 2.7979 | 115.867978 | 236 15 | 303 45 | 15 |
| 16 | 60 0 | 120 0 | 2978 | 106 | 4 20 44.0290 | 2.4844 | 120.710099 | 240 0 | 300 0 | 16 |
| 17 | 63 45 | 116 15 | 3084 | 93 | 4 30 3.0134 | 2.1797 | 125.023250 | 243 45 | 296 15 | 17 |
| 18 | 67 30 | 112 30 | 3177 | 79 | 4 38 13.4431 | 1.8416 | 128.807432 | 247 30 | 292 30 | 18 |
| 19 | 71 15 | 108 45 | 3256 | 65 | 4 45 10.0446 | 1.5234 | 132.021949 | 251 15 | 288 45 | 19 |
| 20 | 75 0 | 105 0 | 3321 | 51 | 4 50 52.8179 | 1.1953 | 134.666805 | 255 0 | 285 0 | 20 |
| 21 | 78 45 | 101 15 | 3372 | 37 | 4 55 21.7634 | 0.8672 | 136.742001 | 258 45 | 281 15 | 21 |
| 22 | 82 30 | 97 30 | 3409 | 22 | 4 58 36.8804 | 0.5156 | 138.247533 | 262 30 | 277 30 | 22 |
| 23 | 86 15 | 93 45 | 3431 | 7 | 5 0 32.8962 | 0.1641 | 139.142717 | 266 15 | 273 45 | 23 |
| 24 | 90 0 | 90 0 | 3438 | | 5 1 9.8103 | | 139.427548 | 270 0 | 270 0 | 24 |

THE FIRST ĀRYA-SIDDHĀNTA. MEAN SYSTEM.

303. It has long been known that in earlier years the Pañchāṅg Brahmans in India framed their local almanacs on calculations made by the use of the mean, as opposed to the true or apparent, motions of the sun and moon. The change from the mean to the true systems of calculation was advocated by Śrīpati (A.D. 1040), and the latter system may have been adopted in some places about that time; becoming more general from about A.D. 1100 onwards. India, however, is a very conservative country, and the late Dr. Fleet was of opinion that the mean system may have been adhered to, in some tracts at least, till a far later date.

304. With this opinion in mind I have prepared the Tables which follow, so as to cover the period of nine centuries from Āryabhaṭa's date, K.Y. 3600 (A.D. 499-500), to 4500 (A.D. 1399-1400). It would be well if all dates of inscriptions that have hitherto been set aside as irregular by Epigraphists could be re-examined, seeing that the difference between the two systems of the *Ārya Siddhānta* constantly leads to differences in the computed positions of the sun and moon on the same civil day, and consequently to differences in the almanac; let alone the differences caused by the use of different Siddhāntas.

Thus, to give an example. The civil day, Monday, 21 October A.D. 1000, was by the *Ārya Siddhānta* true system described as "Monday, 25 Tūlā, nija Āśvina kr. 10," while by the mean system it was "Monday, 27 Tūlā, Kārttika kr. 10." Thursday, 31 Oct., in the same year was by the true system "Thursday, 5 Vṛśchika, Kārttika śukla 6," while by the mean system it was "Thursday, 7 Vṛśchika, Mārgaśīra śukla 5."

305. The present Tables are based on the First *Ārya Siddhānta* as amended by Lalla. The principal Table LXXVI is framed on the lines of the *Indian Calendar*, Table I, so as to meet the convenience of Epigraphists who have become accustomed to the use of that work. The numbers of the columns are made to correspond in both Tables.

Results of calculation carried out by the present Tables will be found to correspond with those worked by use of Professor H. Jacobi's skeleton Tables published in *Epig. Ind.* Vol. XI. There is no need for me to dwell on the great services he has rendered to the cause of Indian history and epigraphy. These are well known. All I have done is to follow in his footsteps, verify his figures to the best of my ability and apply the results to practical use. Some little differences that exist between us have been fully set forth and their cause explained.

Elements. Ārya Siddhānta, mean system.

306. (i) The length of the mean sidereal solar year is $365^d\ 6^h\ 12^m\ 30^s$, or $365^d\ 258680^s$.

(ii) For the sun's mean motion per day, hour, etc., see Tables XLIII, XLIV, above.

(iii) The distance of mean moon from mean sun (our "a"), measured in 10,000ths of the circle, i.e. 10,000ths of the mean synodical revolution of the moon and excluding 12 whole revolutions, increases, during one sidereal solar year, from 0 to 3688-231484714. That is the advance of "a" in the year. Table LXIV-A above col. 3, shews this advance per day, and Table LXV the advance per hour etc.

(iv) The value of "a" in mean reckoning corresponds to that of "t", the tithi-index, in true reckoning. It shews what mean tithi was current at the moment in question.¹ In general calculation by the Tables this moment is the moment of mean sunrise at Laṅkā, taken as 6 A.M.

(v) In reckoning by 10,000ths of the circle the advance of "a" in one mean solar month is 307·352623726.

(vi) Each mean solar month consists of $30^d 10^h 31^m 2\frac{1}{2}^s$. The collective duration from the moment of mean Mēsha-saṁkrānti (the beginning of the mean solar year when the mean sun is at celestial long. 0°) to each separate saṁkrānti, or the moment when the mean sun enters each of the signs, is given in Table LXXVII.

(vii) The length of each mean lunar month is $29^d 12^h 44^m 2\cdot79^s$ or 29·530587946, during which the mean moon's distance from mean sun, "a" increases, in our circle reckoning, from 0 to 10,000. The length of one mean tithi, or one-thirtieth of the mean lunar synodic month, is $23^h 37^m 28\cdot09^s$, or 0·984352931; during which, in circle reckoning, the increase of "a" is 333·3.

(viii) The *śodhya*, or time-difference between the moments of arrival at celestial long. 0° of the true and mean suns, which moments are known respectively as the true and mean Mēsha-saṁkrāntis, is $2^d 3^h 32^m 30^s$, true Mēsha-saṁkrānti being the earlier. This is invariable.

The time of occurrence of mean Mēsha-saṁkrānti in every year is given in Table LXXVI, cols. 13 to 17.

(ix) The *saṁvatsara* name of the solar year is the same by both true and mean reckonings, except in the years A.D. 564-5, 905-6, 990-1, 1246-7 and 1331-2. A special footnote is appended to the main Table LXXVI in each case.

(x) There can be no suppression of a lunar month when calculation is made by the mean system; for the length of a mean solar month is greater than that of a mean lunar month, so that two mean solar saṁkrāntis cannot take place within the limits of one mean lunar month.

(xi) Let it be noted that no intercalation of a lunar month can take place unless, at mean sunrise of the day on which mean Mēsha-saṁkrānti took place, the value of "a" is more than 6280·4892, or unless at the moment of mean Mēsha-saṁkrānti the value of "a" is more than 6619·1211; the latter value being 10,000—3380·8789, the total increase of "a" from Mēsha- to Mīna-saṁkrānti, and the former being 6619·1211—338·6319, this last being the increase of "a" in 24-hours.

The 19-year intercalation cycle

307. (See *Indian Calendar*, § 50, p. 29.) By the mean system the cycle-sequence is found to work with almost perfect regularity. After four successive intercalations at intervals of 19 years each the intercalated lunar month gives way to the month preceding it. But there are two exceptions in the nine centuries embraced in Table LXXVI. Between A.D. 751 and 827 there is a run of five intercalary mean Pausa months, and between A.D. 1242 and 1318 there is a run of five intercalary mean Āśvina months.

In eleven instances the names of the mean intercalary months given in Table LXXVI differ from those stated in the *Indian Calendar*. These differences are due to the former calculations having been based on Professor Jacobi's earliest Tables published 35 years ago, while the present ones agree with the results of calculation made by his more recent elementary fixtures. Each difference is specially noted at foot of Table LXXVI.

¹ The equations of sun and moon are not taken into account in mean reckoning.

The nakshatra.

308. In the mean system the position at any moment of the mean moon in the ecliptic circle, i.e., the mean moon's nakshatra, is found by adding her mean distance from the mean sun to the latter's longitude; that is to say, by adding to the value of " s " (the mean sun's longitude) the value of " a " at the same moment as found by calculation for the mean tithi. All work by the Tables being in the first instance for the mean positions of sun and moon at mean sunrise of any day, Table LXXX provides the sun's mean long. (s) in 10,000ths of the circle, for each period of 24-hours measured from the moment of mean Mēsha-saṁkrānti, while Table LXXXI states the same increase for fractions of the day. To obtain the value of " s " for mean sunrise of any day it is necessary to note first its value after the interval of days between the day of Mēsha-saṁkrānti and the given day (Table LXXX), and, since that value is measured from the moment of Mēsha-saṁkrānti and not from mean sunrise, afterwards to deduct from the value so obtained the increase during that fraction of the day (Table LXXXI). The result is the required " s ", or the mean sun's long. at mean sunrise of the given day. Then $s+a=n$, the nakshatra index required, or the mean moon's place in the ecliptic circle at mean sunrise of that day.

The Rule for work, then, is as follows. Find the value of a ($=t$), the mean tithi-index at mean sunrise of the given day (*Example 2 below*). Note the serial number of the day as measured from Jan. 1. Deduct from this the serial number of the day of mean Mēsha-saṁkrānti (Table LXXVI, col. 13, in brackets). This gives the number of intervening days. Turn to Table LXXX and note the value of " s " against that interval of days. Deduct from this the mean sun's movement given in Table LXXXI during the hours and minutes stated in Table LXXVI, col. 17. The result is the required value of " s " at mean sunrise of the given day. Add s to a . This $= n$, the required nakshatra-index. Table LXVIII above, or Table VIII, *Indian Calendar*, gives the name of the nakshatra.

The Tables.

309. Table LXXVI corresponds to Table 1 *Indian Calendar* in formation and is to be used in the same way. Here the value of " a " is the value of " t ". It gives the tithi-index direct without further calculation.¹

Table LXXVII shews the duration and collective duration of mean solar months, and the increase in the moon's phase, " a ", during each such month.

Table LXXVIII gives the value of " a " at the beginning of each Kaliyuga century.

Table LXXIX corresponds, with a necessary shift of position, to Table LXXIV above, the use of which is fully explained in my former paper, 301.

Tables LXXVIII and LXXIX, with Table LXXIII above (under heading " a "), which gives the value of " a " at the beginning of each year of the Kaliyuga century, enable us to find the value of " a " at mean sunrise of the civil day Chaitra śukla 1 at the beginning of each luni-solar year. Tables LXXVIII and LXXIII yield the value of " a " at mean sunrise of the day on

¹ To find the value of " a ", or " t ", i.e., the exact moon's phase, in 10,000ths of the circle, at any moment of any day, note its value at mean sunrise of the first civil day of the luni-solar year, as given in Table LXXVI (col. 23), and add its value for intervening days, hours, etc. (Tables LXIV, LXV under heading " a ").

which mean Mēsha-saṁkrānti occurred; and Table LXXIX enables, by addition, the "a" for the interval of days between that day and the day Chaitra śukla 1 to be ascertained. [The same can be found by subtracting from the sum of the values obtained from Tables LXXVIII and LXXIII (col. a) the value for those intervening days given in Table LXIV above (*see Example 1*).]

The use of Tables LXXX and LXXXI is explained above (§ 308). They correspond *mutatis mutandis*, with Tables XLVIII A, XLIX above used in calculation for the sun's true longitude.

310. The century-Table LXXVIII requires some further explanation. Its object is to determine the mean moon's phase, "a", at mean sunrise of the opening civil day of each Kaliyuga century, *i.e.*, the day on which mean Mēsha-saṁkrānti occurred at some time later on that day. Reference to Table LXXVI shows that this opening day occurred at the beginnings of centuries 36 and 37 K.Y. on a Sunday, and in centuries 38 to 45 on a Saturday. From Table I, *Indian Calendar*, by adding the *sādhya* interval (*above*, § 306, vii) to the date and time there given for the moment of true Mēsha-saṁkrānti, we find that in centuries 46 to 48 it fell on a Friday. In the mean system, therefore, centuries 37 and 45 were defective centuries, while the rest were common.

Table LXXVIII corresponds to Table LXXII above, which concerns true solar years, and by the true system, *i.e.*, calculation by the movements of true sun, the only defective century was century 42. This accounts for the difference between the two Tables.

It has been shewn above (§ 299, i) that the actual value of "a" at mean sunrise of Sunday, 21 March A.D. 499, on which day, 6 hours later, occurred the moment of mean Mēsha-saṁkrānti (mean sun at 0°) at the beginning of Kaliyuga century 36, was, in notation in 10,000ths of the circle, 7715·352496330. The values of a for later century-beginnings are found by addition to this of the century increases of a, common and defective as required.

EXAMPLES.

Example 1. To find the European day, week-day, and phase of mean moon, *i.e.*, the mean tithi-index "a" (which = "t", the true moon's index) at mean sunrise of the first civil day of the luni-solar year; that is to say, of the day called "Chaitra śukla 1" of the year in question.

[This example is given in order to enable any student to verify the entries in Table LXXVI, cols. 19-23. For ordinary date work the entries themselves afford all information.]

The mean new moon which marks the astronomical beginning of any mean lunar year is the new moon at the end of the lunar month Phālguna of the previous year. The moment of its occurrence is always earlier than the moment in the current year of mean Mēsha-saṁkrānti, the beginning of the mean solar year. The civil day next following the moment of the initial mean new moon of the year is called "Chaitra śukla 1," that tithi being current at mean sunrise of that civil day. Our tabular calculations being for mean sunrise, the value of "a" in Table LXXVI, col. 23, must always be between 0 and 323·3, the last being the limit of the tithi.

To find its value for any year we must first calculate the value of "a" at mean sunrise on the day of occurrence of mean Mēsha-saṁkrānti from Tables LXXVIII and LXXIII (*above*) under heading "a".

This done there are two processes by which the mean sunrise value of "a" on the day Chaitra śukla 1 can be obtained. One is to use Table LXIV, which, by *deducting* from the "a" of mean Mēsha-saṁkrānti-day mean sunrise (already found) the next lower value of "a" in the Table as given for the first 30 days, yields at once the interval of days between Chaitra śukla 1 and

Mēsha-samkrānti, the value of "a" at mean sunrise of the former, and the required week-day. The second process is, using Table LXXIX, to find such earlier day as by adding its "a" to the "a" of Mēsha-samkrānti, already found, will yield a result between 0 and 333·3. The Table then shows the interval of days between the two sunrises, and the week-day corresponding to Chaitra śukla 1.

A. Take for instance the year K.Y. 3725 expired, A.D. 624-25. Mean Mēsha-samkrānti occurred in that year (Table LXXVI, cols. 13-17) on Wed. 21 Mar.,—serial day 81, from Jan. 1. We take the value of "a" at mean sunrise at the beginning of the Kaliyuga century and at the beginning of the expired year from Tables LXXVIII and LXXIII, respectively. The result gives the value of "a" at mean sunrise of Mēsha-samkrānti day in the given year.

| | w-d. | a. |
|--|------|-----------|
| (Table LXXVIII). K.Y. cent. 37 | (1) | 6583·1816 |
| (Table LXXIII above). K.Y. year 25 | (3) | 2047·6413 |
| At mean sunrise on Wed. 21 Mar., the day of occurrence of mean Mēsha-samkrānti | (4) | 8630·8229 |

Process 1.

| | | |
|---|------|------------|
| (Table LXIV above). Next lower value of "a" in the first 30 days of the Table, i.e., that for 25 days | —(4) | —8465·7968 |
|---|------|------------|

| | | |
|--|-----|----------|
| At mean sunrise of the day Chaitra śukla 1 | (0) | 165·0261 |
|--|-----|----------|

This Chaitra śukla 1 civil day was (81—25=) Day 56, or (Table IX, *Indian Calendar*, or LXIX above) Sat. 25 Feb. A.D. 624.

Process 2.

| | w-d. | a. |
|--|-------|------------|
| At mean sunrise on Wed. 21 Mar., the day of mean Mēsha-samkrānti (as above) | (4) | 8630·8229 |
| (Table LXXIX). The only value of "a" which yields result between 0 and 333·3 | + (3) | +1534·2032 |
| At mean sunrise of the day Chaitra śukla 1 | (0) | 165·0261 |

Table LXXIX shews that the interval of days was 25, and the result is in all respects the same as the former.

B. Calculation for the mean sunrise value of "a" on the day of mean Mēsha-samkrānti, the first step shewn in the above, by use of Tables LXXVIII and LXXIII often results in the day found being not the actual day on which Mēsha-samkrānti took place but the day next to it. This is inevitable, seeing that only one Table has to stand for the odd years of all centuries. In such case the necessary adjustment must be made for one day's difference. The entries in Table LXXVI, cols. 13 to 17, are conclusive as to the actual day.

Take the year A.D. 625-26, K.Y. 3726 expired. In that year mean Mēsha-samkrānti occurred on Thurs. 21 Mar., serial day 80.

| | w-d. | a. |
|--|------|-----------|
| (Table LXXVIII). K.Y. century 37 | (1) | 6583·1816 |
| (Table LXXIII). K.Y. year 26 | (5) | 5986·9072 |
| At mean sunrise of Friday, 22 Mar. | (6) | 2570·0888 |
| Deduct value for one day (Table LXIV) | —(1) | —238·6319 |
| At m. sunrise of Thurs. 21 Mar., the day of mean Mēsha-samkrānti | (5) | 2231·4569 |

For the "a" of Chaitra śukla 1 and its day and week-day we use either of the two processes.

| <i>Process 1</i> | | <i>w-d.</i> | <i>a.</i> |
|---|-------|-------------|-------------|
| At m. sunrise of m. M. S.-day, Thurs. 21 Mar. | (5) | | 2231-4569 |
| (Table LXIV above). Next lower value of "a" in the first 30 days of the Table, viz., for 6 days' interval | — (6) | | — 2031-7912 |
| At mean sunrise of Fri. 15 Mar., being the day Chaitra śukla 1 | (6) | | 199-6657 |
| <i>Or, Process 2.</i> | | <i>w-d.</i> | <i>a.</i> |
| At m. sunrise of m. Mēsha-saṅk. day (as above) | (5) | | 2231-4569 |
| Add (Table LXXIX for 6 days earlier) | + (1) | | + 7968-2068 |
| Result (same as above) | (6) | | 199-6657 |

Example 2. To find the mean tithi-index "a" for any day in the year, or any moment of any day.

Table LXXVI, cols. 19-23, states the civil day, Chaitra śukla 1, for each year, its serial number from Jan. 1, its week-day, and its tithi-index "a" at mean sunrise. Calculate, from Table III *Indian Calendar* or Table LXIII above, the interval of whole days to mean sunrise on the given day, and, if necessary, the fraction of day subsequent to that sunrise. Add the increment of "a" for whole days from Table LXIV, and for fractions of the day from Table LXV, to the "a" given in Table LXXVI.

Whole numbers may always be used for whole days, the decimals being only resorted to for close cases and when the calculation includes a fraction of a day.

E.g. Required the tithi-index at mean sunrise on Āshāḍha śukla 4 in the year corresponding to A.D. 625-26; and at 8^h 20^m 15^s after m. sunrise on that day.

| | <i>d.</i> | <i>w-d.</i> | <i>a.</i> |
|--|-----------|-------------|-----------|
| Table LXXVI. Chait. śuk. 1, mean sunrise (<i>Example 1</i>) | (74) | (6) | 199-6657 |
| Tables LXIII A, LXIV. Interval to Āsh. śuk. 4, and increase of "a" | (91) | (0) | 815-5005 |
| At mean sunrise on the day Āsh. śuk. 4 | (165) | (6) | 1015-1662 |

Day 165 was (Table IX, *Indian Calendar*, or Table LXIX above) 14 June A.D. 625. (6)=Friday. *a*=1015 shews (Table VIII or LXVIII) that śukla 4 was current at mean sunrise of that day.

For the specific hour mentioned—

| | <i>a.</i> |
|--|-------------------------|
| At mean sunrise on that day | 1015-1662 |
| (Table LXV) | 8 ^h 112-8773 |
| | 20 ^m 4-7032 |
| | 15 ^s 0-0588 |
| At 8 ^h 20 ^m 15 ^s after mean sunrise | <i>a</i> = 1132-8055 |

Example 3. To find "a" (the tithi-index, or phase of mean moon) at each of the solar saṁkrāntis in the year (the moments of the mean sun's entrance into the several signs), and to determine whether an intercalation of a lunar month took place during the year.

Table LXXVI, cols. 13, 14, 17, shews the day and time of occurrence of mean Mēsha-saṁkrānti (mean sun at long. 0°) in each year, and Example 1 shews how to find the value of "a" at mean sunrise of that day. To that value must be added from Table LXV the increment of "a" during the interval from mean sunrise to moment of saṁkrānti. The advance of "a" during each mean solar month, i.e., from each mean saṁkrānti to the next (Table LXXVII) is 307.3526. The work may be carried out by use of whole numbers, except when a case is very close. This occurs when a waning moon is very near 10,000, or when a waxing moon is very near 0.

Required the above details for the years noted in Examples 1, 2, viz. A.D. 624-5 and 625-6.

In A.D. 624-25 mean Mēsha-saṁkrānti took place $14^h 2^m 30^s$ after mean sunrise. In A.D. 625-26 it took place $20^h 15^m 0^s$ after mean sunrise (Table LXXVI, cols. 13-17).

| | |
|---|-----------|
| A.D. 624-25. Value of "a" at m. sunrise on mean Mēsha-saṁkrānti-day, as already found (Example 1) | a. |
| (Table LXV). Increase of "a" in 14^h | 8630.8229 |
| Ditto 2^m | 197.5353 |
| Ditto 30^s | 0.4703 |
| | 0.1176 |
| Exact value of "a" at moment of mean Mēsha-saṁkrānti | 8828.9461 |
| A.D. 625-26. Value of "a" at m. sunrise of mean Mēsha-saṁkrānti-day as found | 2231.4569 |
| (Table LXV). Increase of "a" in 20^h | 282.1932 |
| Ditto 15^m | 3.5274 |
| Exact value of "a" at moment of mean Mēsha-saṁkrānti | 2517.1775 |

For the several saṁkrāntis in each year we work here roughly with whole numbers only, adding successively the increase of a in 1 solar month.

| | A.D. 624-25 | A.D. 625-26 |
|--------------------|-------------|-------------|
| At Mēsha-saṁkr. | a=8829 | 2517 |
| | 307 | 307 |
| At Viṣhabha-saṁkr. | 9136 | 2824 |
| | 307 | 307 |
| At Mithuna-saṁkr. | 9443 | 3131 |
| | 307 | 307 |
| At Karka-saṁkr. | 9750 | 3438 |
| | 307 | 307 |
| At Siṁha-saṁkr. | 10,057 | 3745 |
| | etc | etc. |

In A.D. 624-25 it is seen that the mean moon was waning at the Karka-saṁkrānti and waxing at the Siṁha-saṁkrānti, proving an intercalation of a lunar month, which month (see Table LXXVII, col 1) was Śrāvaṇa. Actually "a" at Siṁha-saṁkrānti was 58.36.

In A.D. 625-26 the small value of a at the moment of Mēsha-samkrānti shews that there could have been no intercalation in that year (*see above*, § 306, xi).

Example 4. To find the mean moon's nakshatra, or her place in the ecliptic circle at any moment.

(*See* § 308 *above*.) We have to find the value of " s ", the sun's mean long., at the given moment and the value at the same moment of " a ", the index of the mean tithi. $s + a = n$, the index of the nakshatra. I assume that, as usual, the values wanted are those at mean sunrise on the given day; for later moments they can easily be found, from Table LXV for " a ", and from Table LXXXI for " s ". The example here given will shew the process of work.

Required the nakshatra at mean sunrise on the day referred to in Example 2, viz. Āshāḍha śukla 4 in K.Y. 3726, which was proved to be 14 June A.D. 625, and on which day at mean sunrise the value of " a " was found to be 1015.1662. The day, measured from Jan. 1, was serial number 165. In that year mean Mēsha-samkrānti took place (*Table LXXVI*) on Day 80 at 20^h 15^m after mean sunrise. The interval of whole days between 20^h 15^m after mean sunrise on the day of Mēsha-samkrānti and 20^h 15^m after mean sunrise on the given day is (165 - 80 =) 85.

| | |
|--|-----------|
| (<i>Table LXXX</i>). Interval of 85 days | 2327.1179 |
| Less (<i>Table LXXXI</i>) for 20 ^h | 22.8149 |
| for 15 ^m | 0.2852 |
| | 23.1001 |
| At mean sunrise on the day Āshāḍha śuk. 4, " s " = | 2304.0178 |
| Add " a ", as found for that mean sunrise | 1015.1662 |
| | 3319.1840 |
| At mean sunrise on that day (=14 June) " n " = | 3319.1840 |

Table VIII *Indian Calendar*, or Table LXVIII above, shews that the moon was then in the nakshatra Aślēṣhā by the equal-space system and by Garga, but in Maghā by the Brahma Siddhānta.¹

The value of " n ", 3319.1840, in 10,000ths of the circle, can be converted into degrees, if required, by Table XLV B, above. It = 119° 29' 26". That was the mean moon's place.

Example 5. The lagna. (*See Indian Chronography*, § 193, p. 74, and *Example 63*, p. 127.) Required to ascertain at what hour on the day Āshāḍha śuk 4 K.Y. 3726, or 14 June A.D. 625, the sign Tulā became lagna.

At mean sunrise the sun's mean long. " s " was (*Example 4*) 2304.0178, roughly (*Table XLV above*) 82° 57'. The first point of Tulā (Libra) (*Indian Chronography*, *Table XXII*) is 180° - 82° 57' = 97° 3'. 97° × 4 = 388^m, or 6^h 28^m, 3' × 4 = 12". The first point of Tulā, therefore, was lagna at 6^h 28^m 12" after mean sunrise on the day in question. It lasted for 2 hours, when Vṛiśchika (Scorpio) became lagna.

¹ As to these systems see *Indian Calendar* § 38 p. 21; *Indian Chronography* § 112, etc.

TABLE

MEAN SYSTEM TABLE,

Numbers of columns conform

(Cols. 1 to 4.)—The years herein stated are the *current* years corresponding(Cols. 6 and 7.)—*Saṁvatsara*-names of mean solar years in *italics* shew where

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAṂVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3601 | 422 | 557 | | | 499-500 | 9 Yuvan . . . | | 9 Mārgaśīra . |
| 3602 | 423 | 558 | | | *500-01 | 10 Dhātṛi . . . | | ... |
| 3603 | 424 | 559 | | | 501-02 | 11 Īśvara . . . | | ... |
| 3604 | 425 | 560 | | | 502-03 | 12 Bahudhānya . . | | 5 Śrāvapa . |
| 3605 | 426 | 561 | | | 503-04 | 13 Pramāthin . . | | ... |
| 3606 | 427 | 562 | | | *504-05 | 14 Vikrama . . . | | ... |
| 3607 | 428 | 563 | | | 505-06 | 15 Vṛisha . . . | | 2 Vaiśākha . |
| 3608 | 429 | 564 | | | 506-07 | 16 Chitrabhānu . . | | ... |
| 3609 | 430 | 565 | | | 507-08 | 17 Subhānu . . . | | 10 Pausha . |
| 3610 | 431 | 566 | | | *508-09 | 18 Tārapa . . . | | ... |
| 3611 | 432 | 567 | | | 509-10 | 19 Pārthiva . . . | | ... |
| 3612 | 433 | 568 | | | 510-11 | 20 Vyaya . . . | | 7 Āśvina . |
| 3613 | 434 | 569 | | | 511-12 | 21 Sarvajit . . . | | ... |
| 3614 | 435 | 570 | | | *512-13 | 22 Sarvadhārin . . | | ... |
| 3615 | 436 | 571 | | | 513-14 | 23 Virōdhin . . . | | 3 Jyēṣṭha . |
| 3616 | 437 | 572 | | | 514-15 | 24 Vikṛita . . . | | ... |
| 3617 | 438 | 573 | | | 515-16 | 25 Khara . . . | | 12 Phālguna . |
| 3618 | 439 | 574 | | | *516-17 | 26 Nandana . . . | | ... |
| 3619 | 440 | 575 | | | 517-18 | 27 Vijaya . . . | | ... |
| 3620 | 441 | 576 | | | 518-19 | 28 Jaya . . . | | 8 Kārttika . |

LXXVI.

FIRST ARYA SIDDHANTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

differences exist from *Sārya Siddhānta* nomenclature in true solar years.

1 Arya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | | Kali year. |
|---------------------|-------------|-------------------------------|---|-------------|--|------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 | |
| | | H. M. S. | | | | | |
| 21 Mar. (80) . . . | 1 Sun. . . | 6 0 0 | 27 Feb. (58) . . . | 0 Sat. . . | 265-4513 | 3601 | |
| 20 Mar. (80) . . . | 2 Mon. . . | 12 12 30 | 17 Mar. (77) . . . | 6 Fri. . . | 300-0909 | 3602 | |
| 20 Mar. (79) . . . | 3 Tues. . . | 18 25 0 | 6 Mar. (65) . . . | 3 Tues. . . | 175-7743 | 3603 | |
| 21 Mar. (80) . . . | 5 Thur. . . | 0 37 30 | 23 Feb. (54) *. . . | 0 Sat. . . | 51-4577 | 3604 | |
| 21 Mar. (80) . . . | 6 Fri. . . | 6 50 0 | 14 Mar. (73) . . . | 6 Fri. . . | 86-0973 | 3605 | |
| 20 Mar. (80) . . . | 0 Sat. . . | 13 2 30 | 3 Mar. (63) . . . | 4 Wed. . . | 300-4125 | 3606 | |
| 20 Mar. (79) . . . | 1 Sun. . . | 19 15 0 | 20 Feb. (51) . . . | 1 Sun. . . | 176-0959 | 3607 | |
| 21 Mar. (80) . . . | 3 Tues. . . | 1 27 30 | 11 Mar. (70) . . . | 0 Sat. . . | 110-7356 | 3608 | |
| 21 Mar. (80) . . . | 4 Wed. . . | 7 40 0 | 28 Feb. (59) . . . | 4 Wed. . . | 86-4189 | 3609 | |
| 20 Mar. (80) . . . | 5 Thur. . . | 13 52 30 | 18 Mar. (78) . . . | 3 Tues. . . | 121-0586 | 3610 | |
| 20 Mar. (79) . . . | 6 Fri. . . | 20 5 0 | 7 Mar. (66) . . . | 0 Sat. . . | 9996-7419† | 3611 | |
| 21 Mar. (80) . . . | 1 Sun. . . | 2 17 30 | 25 Feb. (56) . . . | 5 Thur. . . | 211-0372 | 3612 | |
| 21 Mar. (80) . . . | 2 Mon. . . | 8 30 0 | 16 Mar. (75) . . . | 4 Wed. . . | 245-6968 | 3613 | |
| 20 Mar. (80) . . . | 3 Tues. . . | 14 42 30 | 4 Mar. (64) . . . | 1 Sun. . . | 121-3802 | 3614 | |
| 20 Mar. (79) . . . | 4 Wed. . . | 20 55 0 | 21 Feb. (52) . . . | 5 Thur. . . | 9997-0635† | 3615 | |
| 21 Mar. (80) . . . | 6 Fri. . . | 3 7 30 | 12 Mar. (71) . . . | 4 Wed. . . | 31-7031 | 3616 | |
| 21 Mar. (80) . . . | 0 Sat. . . | 9 20 0 | 2 Mar. (61) . . . | 2 Mon. . . | 246-0185 | 3617 | |
| 20 Mar. (80) . . . | 1 Sun. . . | 15 32 30 | 20 Mar. (80) . . . | 1 Sun. . . | 280-6581 | 3618 | |
| 20 Mar. (79) . . . | 2 Mon. . . | 21 45 0 | 9 Mar. (68) . . . | 5 Thur. . . | 156-3414 | 3619 | |
| 21 Mar. (80) . . . | 4 Wed. . . | 9 57 30 | 26 Feb. (57) . . . | 2 Mon. . . | 32-0248 | 3620 | |

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3621 | 442 | 577 | | | 519-20 | 29 Maumatha . . | ... | ... |
| 3622 | 443 | 578 | | | *520-21 | 30 Durmukha . . | ... | ... |
| 3623 | 444 | 579 | | | 521-22 | 31 Hāmālamba . . | 5 Śrāvapa . | |
| 3624 | 445 | 580 | | | 522-23 | 32 Vilamba . . . | ... | ... |
| 3625 | 446 | 581 | | | 523-24 | 33 Vikārin . . . | ... | ... |
| 3626 | 447 | 582 | | | *524-25 | 34 Śārvarin . . . | 1 Chaitra . | |
| 3627 | 448 | 583 | | | 525-26 | 35 Plava . . . | ... | ... |
| 3628 | 449 | 584 | | | 526-27 | 36 Subhakṛit . . | 10 Pausha . | |
| 3629 | 450 | 585 | | | 527-28 | 37 Śobhana . . . | ... | ... |
| 3630 | 451 | 586 | | | *528-29 | 38 Krōdhin . . . | ... | ... |
| 3631 | 452 | 587 | | | 529-30 | 39 Viśvāvasu . . | 7 Āāvina . | |
| 3632 | 453 | 588 | | | 530-31 | 40 Parābhava . . | ... | ... |
| 3633 | 454 | 589 | | | 531-32 | 41 Plavaṅga . . | ... | ... |
| 3634 | 455 | 590 | | | *532-33 | 42 Kilaka . . . | 3 Jyēṣṭha . | |
| 3635 | 456 | 591 | | | 533-34 | 43 Saumya . . . | ... | ... |
| 3636 | 457 | 592 | | | 534-35 | 44 Śādhārāpa . . | 12 Phālguna . | |
| 3637 | 458 | 593 | | | 535-36 | 45 Virōdhakṛit . . | ... | ... |
| 3638 | 459 | 594 | | | *536-37 | 46 Paridhāvin . . | ... | ... |
| 3639 | 460 | 595 | | | 537-38 | 47 Pramādin . . | 8 Kārttika | |
| 3640 | 461 | 596 | | | 538-39 | 48 Ānanda . . . | ... | ... |
| 3641 | 462 | 597 | | | 539-40 | 49 Rākshasa . . | ... | ... |
| 3642 | 463 | 598 | | | *540-41 | 50 Anala . . . | 5 Śrāvapa | |
| 3643 | 464 | 599 | | | 541-42 | 51 Piṅgala . . . | ... | ... |
| 3644 | 465 | 600 | | | 542-43 | 52 Kālayukta . . | ... | ... |
| 3645 | 466 | 601 | | | 543-44 | 53 Siddhārthin . . | 1 Chaitra . | |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|------------|
| MEAN SOLAR YEAR | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . | 5 Thur. . . | 10 10 0 | 17 Mar. (76) . . | 1 Sun. . . | 66-6644 | 3621 |
| 20 Mar. (80) . . | 6 Fri. . . | 16 22 30 | 6 Mar. (66) . . | 6 Fri. . . | 280-9797 | 3622 |
| 20 Mar. (79) . . | 0 Sat. . . | 22 35 0 | 23 Feb. (54) . . | 3 Tues. . . | 156-6631 | 3623 |
| 21 Mar. (80) . . | 2 Mon. . . | 4 47 30 | 14 Mar. (73) . . | 2 Mon. . . | 191-3027 | 3624 |
| 21 Mar. (80) . . | 3 Tues. . . | 11 0 0 | 3 Mar. (62) . . | 6 Fri. . . | 66-9860 | 3625 |
| 20 Mar. (80) . . | 4 Wed. . . | 17 12 30 | 21 Feb. (52) . . | 4 Wed. . . | 281-3013 | 3626 |
| 20 Mar. (79) . . | 5 Thur. . . | 23 25 0 | 11 Mar. (70) . . | 3 Tues. . . | 315-9409 | 3627 |
| 21 Mar. (80) . . | 0 Sat. . . | 5 37 30 | 28 Feb. (59) . . | 0 Sat. . . | 191-6243 | 3628 |
| 21 Mar. (80) . . | 1 Sun. . . | 11 50 0 | 19 Mar. (78) . . | 6 Fri. . . | 226-2640 | 3629 |
| 20 Mar. (80) . . | 2 Mon. . . | 18 2 30 | 7 Mar. (67) . . | 3 Tues. . . | 161-9473 | 3630 |
| 21 Mar. (80) . . | 4 Wed. . . | 0 15 0 | 25 Feb. (56) . . | 1 Sun. . . | 316-2626 | 3631 |
| 21 Mar. (80) . . | 5 Thur. . . | 6 27 30 | 18 Mar. (74) . . | 6 Fri. . . | 12-2703 | 3632 |
| 21 Mar. (80) . . | 6 Fri. . . | 12 40 0 | 5 Mar. (64) . . | 4 Wed. . . | 226-5856 | 3633 |
| 20 Mar. (80) . . | 0 Sat. . . | 18 52 30 | 22 Feb. (53) . . | 1 Sun. . . | 102-2690 | 3634 |
| 21 Mar. (80) . . | 2 Mon. . . | 1 5 0 | 12 Mar. (71) . . | 0 Sat. . . | 136-9086 | 3635 |
| 21 Mar. (80) . . | 3 Tues. . . | 7 17 30 | 1 Mar. (60) . . | 4 Wed. . . | 12-6920 | 3636 |
| 21 Mar. (80) . . | 4 Wed. . . | 13 30 0 | 20 Mar. (79) . . | 3 Tues. . . | 47-2316 | 3637 |
| 20 Mar. (80) . . | 5 Thur. . . | 19 42 30 | 9 Mar. (69) . . | 1 Sun. . . | 261-5469 | 3638 |
| 21 Mar. (80) . . | 0 Sat. . . | 1 55 0 | 26 Feb. (57) . . | 5 Thur. . . | 137-2303 | 3639 |
| 21 Mar. (80) . . | 1 Sun. . . | 8 7 30 | 17 Mar. (76) . . | 4 Wed. . . | 171-8699 | 3640 |
| 21 Mar. (80) . . | 2 Mon. . . | 14 20 0 | 6 Mar. (65) . . | 1 Sun. . . | 47-5533 | 3641 |
| 20 Mar. (80) . . | 3 Tues. . . | 20 32 30 | 24 Feb. (55) . . | 6 Fri. . . | 261-8686 | 3642 |
| 21 Mar. (80) . . | 5 Thur. . . | 2 45 0 | 14 Mar. (73) . . | 5 Thur. . . | 296-5082 | 3643 |
| 21 Mar. (80) . . | 6 Fri. . . | 8 57 30 | 3 Mar. (62) . . | 2 Mon. . . | 172-1916 | 3644 |
| 21 Mar. (80) . . | 0 Sat. . . | 15 10 0 | 20 Feb. (51) . . | 6 Fri. . . | 47-8749 | 3645 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| K&B | Saka. | Chaitrañi Vikrama. | Mēshālī solar year in Bengal. | Kottam. | A.D. | JOVIAN SAMVATSARA. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3646 | 407 | 602 | | | *544-45 | 54 Raudra . . . | | ... |
| 3647 | 468 | 603 | | | 545-46 | 55 Durmati . . . | | 10 Pausa . |
| 3648 | 469 | 604 | | | 546-47 | 56 Dundubhi . . . | | ... |
| 3649 | 470 | 605 | | | 547-48 | 57 Radhirōdgārin . . . | | ... |
| 3650 | 471 | 606 | | | *548-49 | 58 Raktāksha . . . | | 6 Bhādrapada |
| 3651 | 472 | 607 | | | 549-50 | 59 Krōdhana . . . | | ... |
| 3652 | 473 | 608 | | | 550-51 | 60 Kshaya . . . | | ... |
| 3653 | 474 | 609 | | | 551-52 | 1 Prabhava . . . | | 3 Jyēshtha . |
| 3654 | 475 | 610 | | | *552-53 | 2 Vibhava . . . | | ... |
| 3655 | 476 | 611 | | | 553-54 | 3 Sukla . . . | | 11 Māgha . |
| 3656 | 477 | 612 | | | 554-55 | 4 Pramōda . . . | | ... |
| 3657 | 478 | 613 | | | 555-56 | 5 Prajāpati . . . | | ... |
| 3658 | 479 | 614 | | | *556-57 | 6 Aṅgiras . . . | | 8 Kārttika . |
| 3659 | 480 | 615 | | | 557-58 | 7 Śrīmukha . . . | | ... |
| 3660 | 481 | 616 | | | 558-59 | 8 Bhāva . . . | | ... |
| 3661 | 482 | 617 | | | 559-60 | 9 Yuvan . . . | | 4 Āshāḍha . |
| 3662 | 483 | 618 | | | *560-61 | 10 Dhātṛi . . . | | ... |
| 3663 | 484 | 619 | | | 561-62 | 11 Iṣvara . . . | | ... |
| 3664 | 485 | 620 | | | 562-63 | 12 Bahudhānya . . . | | 1 Chaitra . |
| 3665 | 486 | 621 | | | 563-64 | 13 Pramādin † . . . | | ... |
| 3666 | 487 | 622 | | | *564-65 | 15 Vṛiṣha . . . | | 10 Pausa . |
| 3667 | 488 | 623 | | | 565-66 | 16 Chitrobhānu . . . | | ... |
| 3668 | 489 | 624 | | | 566-67 | 17 Subhānu . . . | | ... |
| 3669 | 490 | 625 | | | 567-68 | 18 Tārepa . . . | | 6 Bhādrapada. |
| 3670 | 491 | 626 | | | *568-69 | 19 Pārthiva . . . | | ... |

† By the First Arya Siddhanta moon system 14 Vikrama was expunged, and A.D. 564-65 corresponded to 15 Vṛiṣha. By the same authority true system A.D. 564-65 corresponded to 14 Vikrama, and 15 Vṛiṣha was expunged. A.D. 565-66 was 16 Chitrabhānu by both systems.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Māha-samkrānti. | Day and month, A.D. | Week-day. | a (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 20 Mar. (80) . . | 1 Sun. . | 21 22 30 | 10 Mar. (70) . . | 5 Thur. . | 82-5145 | 3646 |
| 21 Mar. (80) . . | 3 Tues. . | 3 35 0 | 28 Feb. (59) . . | 3 Tues. . | 296-8298 | 3647 |
| 21 Mar. (80) . . | 4 Wed. . | 9 47 30 | 19 Mar. (78) . . | 2 Mon. . | 331-4694 | 3648 |
| 21 Mar. (80) . . | 5 Thur. . | 16 0 0 | 8 Mar. (67) . . | 6 Fri. . | 207-1528 | 3649 |
| 20 Mar. (80) . . | 6 Fri. . | 22 12 30 | 25 Feb. (56) . . | 3 Tues. . | 82-8361 | 3650 |
| 21 Mar. (80) . . | 1 Sun. . | 4 25 0 | 15 Mar. (74) . . | 2 Mon. . | 117-4757 | 3651 |
| 21 Mar. (80) . . | 2 Mon. . | 10 37 30 | 5 Mar. (64) . . | 0 Sat. . | 331-7910 | 3652 |
| 21 Mar. (80) . . | 3 Tues. . | 16 50 0 | 22 Feb. (53) . . | 4 Wed. . | 207-4744 | 3653 |
| 20 Mar. (80) . . | 4 Wed. . | 23 2 30 | 12 Mar. (72) . . | 3 Tues. . | 242-1140 | 3654 |
| 21 Mar. (80) . . | 6 Fri. . | 5 15 0 | 1 Mar. (60) . . | 0 Sat. . | 117-7974 | 3655 |
| 21 Mar. (80) . . | 0 Sat. . | 11 27 30 | 20 Mar. (79) . . | 6 Fri. . | 152-4370 | 3656 |
| 21 Mar. (80) . . | 1 Sun. . | 17 40 0 | 9 Mar. (68) . . | 3 Tues. . | 28-1204 | 3657 |
| 20 Mar. (80) . . | 2 Mon. . | 23 52 30 | 27 Feb. (58) . . | 1 Sun. . | 242-4357 | 3658 |
| 21 Mar. (80) . . | 4 Wed. . | 6 5 0 | 17 Mar. (76) . . | 0 Sat. . | 277-0753 | 3659 |
| 21 Mar. (80) . . | 5 Thur. . | 12 17 30 | 6 Mar. (65) . . | 4 Wed. . | 152-7587 | 3660 |
| 21 Mar. (80) . . | 6 Fri. . | 18 30 0 | 23 Feb. (54) . . | 1 Sun. . | 28-4421 | 3661 |
| 21 Mar. (81) . . | 1 Sun. . | 0 42 30 | 13 Mar. (73) . . | 0 Sat. . | 63-0817 | 3662 |
| 21 Mar. (80) . . | 2 Mon. . | 6 55 0 | 3 Mar. (62) . . | 5 Thur. . | 277-3970 | 3663 |
| 21 Mar. (80) . . | 3 Tues. . | 13 7 30 | 20 Feb. (51) . . | 2 Mon. . | 153-0803 | 3664 |
| 21 Mar. (80) . . | 4 Wed. . | 19 20 0 | 11 Mar. (70) . . | 1 Sun. . | 187-7200 | 3665 |
| 21 Mar. (81) . . | 6 Fri. . | 1 32 30 | 28 Feb. (59) . . | 5 Thur. . | 63-4034 | 3666 |
| 21 Mar. (80) . . | 0 Sat. . | 7 45 0 | 18 Mar. (77) . . | 4 Wed. . | 98-0430 | 3667 |
| 21 Mar. (80) . . | 1 Sun. . | 13 57 30 | 8 Mar. (67) . . | 2 Mon. . | 312-3582 | 3668 |
| 21 Mar. (80) . . | 2 Mon. . | 20 10 0 | 25 Feb. (56) . . | 6 Fri. . | 188-0416 | 3669 |
| 21 Mar. (81) . . | 4 Wed. . | 2 22 30 | 15 Mar. (75) . . | 5 Thur. . | 222-6813 | 3670 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3671 | 492 | 627 | | | 569-70 | 20 Vyaya . . . | | ... |
| 3672 | 493 | 628 | | | 570-71 | 21 Sarvajit . . . | | 3 Jyēshtha . |
| 3673 | 494 | 629 | | | 571-72 | 22 Sarvadhārin . . . | | ... |
| 3674 | 495 | 630 | | | *572-73 | 23 Virōdhin . . . | | 11 Māgha . |
| 3675 | 496 | 631 | | | 573-74 | 24 Vikṛita . . . | | ... |
| 3676 | 497 | 632 | | | 574-75 | 25 Khara . . . | | ... |
| 3677 | 498 | 633 | | | 575-76 | 26 Nandana . . . | | 8 Kārttika . |
| 3678 | 499 | 634 | | | *576-77 | 27 Vijaya . . . | | ... |
| 3679 | 500 | 635 | | | 577-78 | 28 Jaya . . . | | ... |
| 3680 | 501 | 636 | | | 578-79 | 29 Manmatha . . . | | 4 Āshādha . |
| 3681 | 502 | 637 | | | 579-80 | 30 Darmukha . . . | | ... |
| 3682 | 503 | 638 | | | *580-81 | 31 Hēmalamba . . . | | ... |
| 3683 | 504 | 639 | | | 581-82 | 32 Vilamba . . . | | 1 Chaitra . |
| 3684 | 505 | 640 | | | 582-83 | 33 Vikārin . . . | | ... |
| 3685 | 506 | 641 | | | 583-84 | 34 Sārvarin . . . | | 9 Mārgaśīra . |
| 3686 | 507 | 642 | | | *584-85 | 35 Plava . . . | | ... |
| 3687 | 508 | 643 | | | 585-86 | 36 Subhakṛit . . . | | ... |
| 3688 | 509 | 644 | | | 586-87 | 37 Śobhana . . . | | 6 Bhādrapada. |
| 3689 | 510 | 645 | | | 587-88 | 38 Krōdhin . . . | | ... |
| 3690 | 511 | 646 | | | *588-89 | 39 Viśvāvasu . . . | | ... |
| 3691 | 512 | 647 | | | 589-90 | 40 Parābhava . . . | | 2 Vaiśākha . |
| 3692 | 513 | 648 | | | 590-91 | 41 Plavāśga . . . | | ... |
| 3693 | 514 | 649 | | | 591-92 | 42 Kilaka . . . | | 11 Māgha . |
| 3694 | 515 | 650 | | | *592-93 | 43 Saumya . . . | | ... |
| 3695 | 516 | 651 | | | 593-94 | 44 Sādhāraṇa . . . | | ... |

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . . | 5 Thur. . . | 8 35 0 | 4 Mar. (63) . . . | 2 Mon. . . | 98-3646 | 3671 |
| 21 Mar. (80) . . . | 6 Fri. . . | 14 47 30 | 22 Feb. (53) . . . | 0 Sat. . . | 312-6799 | 3672 |
| 21 Mar. (80) . . . | 0 Sat. . . | 21 0 0 | 12 Mar. (71) . . . | 5 Thur. . . | 8-6876 | 3673 |
| 21 Mar. (81) . . . | 2 Mon. . . | 3 12 30 | 1 Mar. (61) . . . | 3 Tues. . . | 223-0029 | 3674 |
| 21 Mar. (80) . . . | 3 Tues. . . | 9 25 0 | 20 Mar. (79) . . . | 2 Mon. . . | 257-6425 | 3675 |
| 21 Mar. (80) . . . | 4 Wed. . . | 15 37 30 | 9 Mar. (68) . . . | 6 Fri. . . | 133-3259 | 3676 |
| 21 Mar. (80) . . . | 5 Thur. . . | 21 50 0 | 26 Feb. (57) . . . | 3 Tues. . . | 9-0092 | 3677 |
| 21 Mar. (81) . . . | 0 Sat. . . | 4 2 30 | 16 Mar. (76) . . . | 2 Mon. . . | 43-6488 | 3678 |
| 21 Mar. (80) . . . | 1 Sun. . . | 10 15 0 | 6 Mar. (65) . . . | 0 Sat. . . | 257-9641 | 3679 |
| 21 Mar. (80) . . . | 2 Mon. . . | 16 27 30 | 23 Feb. (54) . . . | 4 Wed. . . | 133-6476 | 3680 |
| 21 Mar. (80) . . . | 3 Tues. . . | 22 40 0 | 14 Mar. (73) . . . | 3 Tues. . . | 168-2871 | 3681 |
| 21 Mar. (81) . . . | 5 Thur. . . | 4 52 30 | 2 Mar. (62) . . . | 0 Sat. . . | 43-9705 | 3682 |
| 21 Mar. (80) . . . | 6 Fri. . . | 11 5 0 | 20 Feb. (51) . . . | 5 Thur. . . | 258-2857 | 3683 |
| 21 Mar. (80) . . . | 0 Sat. . . | 17 17 30 | 11 Mar. (70) . . . | 4 Wed. . . | 292-9254 | 3684 |
| 21 Mar. (80) . . . | 1 Sun. . . | 23 30 0 | 28 Feb. (59) . . . | 1 Sun. . . | 168-6087 | 3685 |
| 21 Mar. (81) . . . | 3 Tues. . . | 5 42 30 | 18 Mar. (78) . . . | 0 Sat. . . | 203-2484 | 3686 |
| 21 Mar. (80) . . . | 4 Wed. . . | 11 55 0 | 7 Mar. (66) . . . | 4 Wed. . . | 78-9317 | 3687 |
| 21 Mar. (80) . . . | 5 Thur. . . | 18 7 30 | 25 Feb. (56) . . . | 2 Mon. . . | 293-2470 | 3688 |
| 22 Mar. (81) . . . | 0 Sat. . . | 0 20 0 | 16 Mar. (75) . . . | 1 Sun. . . | 327-8867 | 3689 |
| 21 Mar. (81) . . . | 1 Sun. . . | 9 32 30 | 4 Mar. (64) . . . | 5 Thur. . . | 293-5700 | 3690 |
| 21 Mar. (80) . . . | 2 Mon. . . | 12 45 0 | 21 Feb. (52) . . . | 2 Mon. . . | 79-2534 | 3691 |
| 21 Mar. (80) . . . | 3 Tues. . . | 18 57 30 | 12 Mar. (71) . . . | 1 Sun. . . | 113-8930 | 3692 |
| 22 Mar. (81) . . . | 5 Thur. . . | 1 10 0 | 2 Mar. (61) . . . | 6 Fri. . . | 328-2083 | 3693 |
| 21 Mar. (81) . . . | 6 Fri. . . | 7 22 30 | 19 Mar. (79) . . . | 4 Wed. . . | 24-2166 | 3694 |
| 21 Mar. (80) . . . | 0 Sat. . . | 13 35 0 | 9 Mar. (68) . . . | 2 Mon. . . | 238-5313 | 3695 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adbika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Saka. | Chaltradi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a] |
| 3696 | 517 | 652 | 1 | | 594-95 | 45 Virōdhakṛit . . | | 7 Āsvina . |
| 3697 | 518 | 653 | 2 | | 595-96 | 46 Paridhāvin . . | | ... |
| 3698 | 519 | 654 | 3 | | *596-97 | 47 Pramādin . . | | ... |
| 3699 | 520 | 655 | 4 | | 597-98 | 48 Ānanda . . | | 4 Āshādha . |
| 3700 | 521 | 656 | 5 | | 598-99 | 49 Rākshasa . . | | ... |
| 3701 | 522 | 657 | 6 | | 599-600 | 50 Anala . . | | 12 Phālguna . |
| 3702 | 523 | 658 | 7 | | *600-01 | 51 Piṅgala . . | | ... |
| 3703 | 524 | 659 | 8 | | 601-02 | 52 Kālayukta . . | | ... |
| 3704 | 525 | 660 | 9 | | 602-03 | 53 Siddhārthin . . | | 9 Mārgaśīra . |
| 3705 | 526 | 661 | 10 | | 603-04 | 54 Randra . . | | ... |
| 3706 | 527 | 662 | 11 | | *604-05 | 55 Darmati . . | | ... |
| 3707 | 528 | 663 | 12 | | 605-06 | 56 Dundubhi . . | | 6 Bhādrapada. |
| 3708 | 529 | 664 | 13 | | 606-07 | 57 Rudhirōdgārīn . . | | ... |
| 3709 | 530 | 665 | 14 | | 607-08 | 58 Raktāksha . . | | ... |
| 3710 | 531 | 666 | 15 | | *608-09 | 59 Krōdhana . . | | 2 Vaiśākha . |
| 3711 | 532 | 667 | 16 | | 609-10 | 60 Kshaya . . | | ... |
| 3712 | 533 | 668 | 17 | | 610-11 | 1 Prabhava . . | | 11 Māgha . |
| 3713 | 534 | 669 | 18 | | 611-12 | 2 Vibhava . . | | ... |
| 3714 | 535 | 670 | 19 | | *612-13 | 3 Śukla . . | | ... |
| 3715 | 536 | 671 | 20 | | 613-14 | 4 Pramōda . . | | 7 Āsvina . |
| 3716 | 537 | 672 | 21 | | 614-15 | 5 Prajāpati . . | | ... |
| 3717 | 538 | 673 | 22 | | 615-16 | 6 Aṅgīras . . | | ... |
| 3718 | 539 | 674 | 23 | | *616-17 | 7 Śrinukha . . | | 4 Āshādha |
| 3719 | 540 | 675 | 24 | | 617-18 | 8 Bhāva . . | | ... |
| 3720 | 541 | 676 | 25 | | 618-19 | 9 Yuvan . . | | 12 Phālguna |

LXXVI—Contd.

I Arya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . | 1 Sun. . | 19 47 30 | 26 Feb. (57) . . | 6 Fri. . | 114-2147 | 3692 |
| 22 Mar. (81) . . | 3 Tues. . | 2 0 0 | 17 Mar. (76) . . | 5 Thur. . | 148-8343 | 3697 |
| 21 Mar. (81) . . | 4 Wed. . | 8 12 30 | 5 Mar. (65) . . | 2 Mon. . | 24-5377 | 3698 |
| 21 Mar. (80) . . | 5 Thur. . | 14 25 0 | 23 Feb. (54) . . | 0 Sat. . | 235-8530 | 3699 |
| 21 Mar. (80) . . | 6 Fri. . | 20 27 30 | 14 Mar. (73) . . | 6 Fri. . | 273-4928 | 3700 |
| 22 Mar. (81) . . | 1 Sun. . | 2 50 0 | 3 Mar. (62) . . | 3 Tues. . | 149-1760 | 3701 |
| 21 Mar. (81) . . | 2 Mon. . | 9 2 30 | 21 Mar. (81) . . | 2 Mon. . | 183-8156 | 3702 |
| 21 Mar. (80) . . | 3 Tues. . | 15 15 0 | 10 Mar. (69) . . | 6 Fri. . | 60-4990 | 3703 |
| 21 Mar. (80) . . | 4 Wed. . | 21 27 30 | 28 Feb. (59) . . | 4 Wed. . | 273-8142 | 3704 |
| 22 Mar. (81) . . | 6 Fri. . | 3 40 0 | 19 Mar. (78) . . | 3 Tues. . | 308-4539 | 3705 |
| 21 Mar. (81) . . | 0 Sat. . | 9 52 30 | 7 Mar. (67) . . | 0 Sat. . | 184-1373 | 3706 |
| 21 Mar. (80) . . | 1 Sun. . | 16 5 0 | 24 Feb. (55) . . | 4 Wed. . | 59-8207 | 3707 |
| 21 Mar. (80) . . | 2 Mon. . | 22 17 30 | 15 Mar. (74) . . | 3 Tues. . | 94-4603 | 3708 |
| 22 Mar. (81) . . | 4 Wed. . | 4 30 0 | 5 Mar. (64) . . | 1 Sun. . | 308-7756 | 3709 |
| 21 Mar. (81) . . | 5 Thur. . | 10 42 30 | 22 Feb. (53) . . | 5 Thur. . | 184-4589 | 3710 |
| 21 Mar. (80) . . | 6 Fri. . | 16 55 0 | 12 Mar. (71) . . | 4 Wed. . | 219-0085 | 3711 |
| 21 Mar. (80) . . | 0 Sat. . | 23 7 30 | 1 Mar. (60) . . | 1 Sun. . | 94-7819 | 3712 |
| 22 Mar. (81) . . | 2 Mon. . | 5 20 0 | 20 Mar. (79) . . | 0 Sat. . | 129-4215 | 3713 |
| 21 Mar. (81) . . | 3 Tues. . | 11 32 30 | 8 Mar. (68) . . | 4 Wed. . | 5-1049 | 3714 |
| 21 Mar. (80) . . | 4 Wed. . | 17 45 0 | 26 Feb. (57) . . | 2 Mon. . | 219-4201 | 3715 |
| 21 Mar. (80) . . | 5 Thur. . | 23 57 30 | 17 Mar. (76) . . | 1 Sun. . | 264-0597 | 3716 |
| 22 Mar. (81) . . | 0 Sat. . | 6 10 0 | 6 Mar. (65) . . | 5 Thur. . | 129-7432 | 3717 |
| 21 Mar. (81) . . | 1 Sun. . | 12 22 30 | 23 Feb. (54) . . | 2 Mon. . | 5-4266 | 3718 |
| 21 Mar. (80) . . | 2 Mon. . | 18 35 0 | 13 Mar. (72) . . | 1 Sun. . | 49-0661 | 3719 |
| 22 Mar. 81) . . | 4 Wed. . | 0 47 30 | 3 Mar. (62) . . | 6 Fri. . | 274-3814 | 3720 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka | Chaitradī Vikrama. | Moṣādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3721 | 542 | 677 | 26 | | 619-20 | 10 Dhātṛi . . . | | ... |
| 3722 | 543 | 678 | 27 | | *620-21 | 11 Īśvara . . . | | ... |
| 3723 | 544 | 679 | 28 | | 621-22 | 12 Bahudhānya . . | | 9 Mārgaśīra . |
| 3724 | 545 | 680 | 29 | | 622-23 | 13 Pramādin . . . | | ... |
| 3725 | 546 | 681 | 30 | | 623-24 | 14 Vikrama . . . | | ... |
| 3726 | 547 | 682 | 31 | | *624-25 | 15 Vṛisha . . . | | 5 Śrāvana . |
| 3727 | 548 | 683 | 32 | | 625-26 | 16 Chitrabhānu . . | | ... |
| 3728 | 549 | 684 | 33 | | 626-27 | 17 Subhānu . . . | | ... |
| 3729 | 550 | 685 | 34 | | 627-28 | 18 Tārapa . . . | | 2 Vaiśākha . |
| 3730 | 551 | 686 | 35 | | *628-29 | 19 Pārthiva . . . | | ... |
| 3731 | 552 | 687 | 36 | | 629-30 | 20 Vyaya . . . | | 10 Pausa . |
| 3732 | 553 | 688 | 37 | | 630-31 | 21 Sarvajit . . . | | ... |
| 3733 | 554 | 689 | 38 | | 631-32 | 22 Sarvadhārin . . | | ... |
| 3734 | 555 | 690 | 39 | | *632-33 | 23 Virōdhin . . . | | 7 Āśvina . |
| 3735 | 556 | 691 | 40 | | 633-34 | 24 Vikṛita . . . | | ... |
| 3736 | 557 | 692 | 41 | | 634-35 | 25 Khara . . . | | ... |
| 3737 | 558 | 693 | 42 | | 635-36 | 26 Nandana . . . | | 3 Jyēṣṭha . |
| 3738 | 559 | 694 | 43 | | *636-37 | 27 Vijaya . . . | | ... |
| 3739 | 560 | 695 | 44 | | 637-38 | 28 Jaya . . . | | 12 Phālguna . |
| 3740 | 561 | 696 | 45 | | 638-39 | 29 Manmatha . . | | ... |
| 3741 | 562 | 697 | 46 | | 639-40 | 30 Durmukha . . | | ... |
| 3742 | 563 | 698 | 47 | | *640-41 | 31 Hēmalamba . . | | 9 Mārgaśīra |
| 3743 | 564 | 699 | 48 | | 641-42 | 32 Vilamba . . . | | ... |
| 3744 | 565 | 700 | 49 | | 642-43 | 33 Vikārin . . . | | ... |
| 3745 | 566 | 701 | 50 | | 643-44 | 34 Śārvarin . . . | | 5 Śrāvana . |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 22 Mar. (81) . . | 5 Thur. . | 7 0 0 | 22 Mar. (81) . . | 5 Thur. . | 289-0209 | 3721 |
| 21 Mar. (81) . . | 6 Fri. . | 13 12 30 | 19 Mar. (70) . . | 2 Mon. . | 164-7044 | 3722 |
| 21 Mar. (80) . . | 0 Sat. . | 19 25 0 | 27 Feb. (58) . . | 6 Fri. . | 40-3877 | 3723 |
| 22 Mar. (81) . . | 2 Mon. . | 1 37 30 | 18 Mar. (77) . . | 5 Thur. . | 75-0274 | 3724 |
| 22 Mar. (81) . . | 3 Tues. . | 7 50 0 | 8 Mar. (67) . . | 3 Tues. . | 289-3427 | 3725 |
| 21 Mar. (81) . . | 4 Wed. . | 14 2 30 | 25 Feb. (56) . . | 0 Sat. . | 165-0261 | 3726 |
| 21 Mar. (80) . . | 5 Thur. . | 20 15 0 | 15 Mar. (74) . . | 6 Fri. . | 199-6637 | 3727 |
| 22 Mar. (81) . . | 0 Sat. . | 2 27 30 | 4 Mar. (63) . . | 3 Tues. . | 75-3491 | 3728 |
| 22 Mar. (81) . . | 1 Sun. . | 8 40 0 | 22 Feb. (53) . . | 1 Sun. . | 289-6643 | 3729 |
| 21 Mar. (81) . . | 2 Mon. . | 14 52 30 | 12 Mar. (72) . . | 0 Sat. . | 324-3039 | 3730 |
| 21 Mar. (80) . . | 3 Tues. . | 21 5 0 | 1 Mar. (60) . . | 4 Wed. . | 199-9873 | 3731 |
| 22 Mar. (81) . . | 5 Thur. . | 3 17 30 | 20 Mar. (79) . . | 3 Tues. . | 234-6269 | 3732 |
| 22 Mar. (81) . . | 6 Fri. . | 9 30 0 | 9 Mar. (68) . . | 0 Sat. . | 110-3103 | 3733 |
| 21 Mar. (81) . . | 0 Sat. . | 15 42 30 | 27 Feb. (58) . . | 5 Thur. . | 324-6256 | 3734 |
| 21 Mar. (80) . . | 1 Sun. . | 21 55 0 | 16 Mar. (75) . . | 3 Tues. . | 20-6333 | 3735 |
| 22 Mar. (81) . . | 3 Tues. . | 4 7 30 | 6 Mar. (65) . . | 1 Sun. . | 224-9486 | 3736 |
| 22 Mar. (81) . . | 4 Wed. . | 10 20 0 | 23 Feb. (54) . . | 5 Thur. . | 110-6320 | 3737 |
| 21 Mar. (81) . . | 5 Thur. . | 16 32 30 | 13 Mar. (73) . . | 4 Wed. . | 145-2716 | 3738 |
| 21 Mar. (80) . . | 6 Fri. . | 22 45 0 | 2 Mar. (61) . . | 1 Sun. . | 20-9550 | 3739 |
| 22 Mar. (81) . . | 1 Sun. . | 4 57 30 | 21 Mar. (80) . . | 0 Sat. . | 55-5946 | 3740 |
| 22 Mar. (81) . . | 2 Mon. . | 11 10 0 | 11 Mar. (70) . . | 5 Thur. . | 289-9099 | 3741 |
| 21 Mar. (81) . . | 3 Tues. . | 17 22 30 | 28 Feb. (59) . . | 2 Mon. . | 145-5933 | 3742 |
| 21 Mar. (80) . . | 4 Wed. . | 23 35 0 | 18 Mar. (77) . . | 1 Sun. . | 160-2329 | 3743 |
| 22 Mar. (81) . . | 6 Fri. . | 5 47 30 | 7 Mar. (66) . . | 5 Thur. . | 53-9163 | 3744 |
| 22 Mar. (81) . . | 0 Sat. . | 12 0 0 | 25 Feb. (56) . . | 3 Tues. . | 279-2316 | 3745 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mōshādi solar year in Bengal. | Kollām. | A.D. | JOVIAN SĀMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3746 | 567 | 702 | 51 | | *644-45 | 35 Plava . . . | | ... |
| 3747 | 568 | 703 | 52 | | 645-46 | 36 Subhakarit . . . | | ... |
| 3748 | 569 | 704 | 53 | | 646-47 | 37 Sōbhana . . . | | 2 Vaiśākha . |
| 3749 | 570 | 705 | 54 | | 647-48 | 38 Krōdhin . . . | | ... |
| 3750 | 571 | 706 | 55 | | *648-49 | 39 Viśvāvasu . . . | | 10 Pausa . |
| 3751 | 572 | 707 | 56 | | 649-50 | 40 Parābhava† . . . | | ... |
| 3752 | 573 | 708 | 57 | | 650-51 | 42 Kilaka . . . | | ... |
| 3753 | 574 | 709 | 58 | | 651-52 | 43 Saumya . . . | | 7 Āśvina . |
| 3754 | 575 | 710 | 59 | | *652-53 | 44 Sūdhārāpa . . . | | ... |
| 3755 | 576 | 711 | 60 | | 653-54 | 45 Virōdhakṛt . . . | | ... |
| 3756 | 577 | 712 | 61 | | 654-55 | 46 Paridhāvin . . . | | 3 Jyēṣṭha . |
| 3757 | 578 | 713 | 62 | | 655-56 | 47 Pramādin . . . | | ... |
| 3758 | 579 | 714 | 63 | | *656-57 | 48 Ānanda . . . | | 12 Phālguna . |
| 3759 | 580 | 715 | 64 | | 657-58 | 49 Rākhaṣa . . . | | ... |
| 3760 | 581 | 716 | 65 | | 658-59 | 50 Apala . . . | | ... |
| 3761 | 582 | 717 | 66 | | 659-60 | 51 Piṅgala . . . | | 8 Kārttika . |
| 3762 | 583 | 718 | 67 | | *660-61 | 52 Kālayukta . . . | | ... |
| 3763 | 584 | 719 | 68 | | 661-62 | 53 Siddhārthin . . . | | ... |
| 3764 | 585 | 720 | 69 | | 662-63 | 54 Randra . . . | | 5 Śrāvana . |
| 3765 | 586 | 721 | 70 | | 663-64 | 55 Durmatī . . . | | ... |
| 3766 | 587 | 722 | 71 | | *664-65 | 56 Dundubhī . . . | | ... |
| 3767 | 588 | 723 | 72 | | 665-66 | 57 Rudhirōdgārin . . . | | 1 Chaitra . |
| 3768 | 589 | 724 | 73 | | 666-67 | 58 Raktāksha . . . | | ... |
| 3769 | 590 | 725 | 74 | | 667-68 | 59 Krōdhana . . . | | 10 Pausa . |
| 3770 | 591 | 726 | 75 | | *668-69 | 60 Kabaya . . . | | ... |

† By the mean system 41 Plavaṅga was expunged, as also by the true system.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|-------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankrānti. | Day and month, A.D. | Week-day. | a (here=1, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 21 Mar. (81) . . | 1 Sun. . | 18 12 30 | 15 Mar. (75) . . | 2 Mon. . | 304-8711 | 3746 |
| 22 Mar. (81) . . | 3 Tues. . | 0 25 0 | 4 Mar. (63) . . | 0 Fri. . | 180-5545 | 3747 |
| 23 Mar. (81) . . | 4 Wed. . | 6 37 30 | 21 Feb. (52) . . | 3 Tues. . | 56-2378 | 3748 |
| 22 Mar. (81) . . | 5 Thur. . | 12 50 0 | 12 Mar. (71) . . | 2 Mon. . | 90-8775 | 3749 |
| 21 Mar. (81) . . | 6 Fri. . | 19 2 30 | 1 Mar. (61) . . | 0 Sat. . | 305-1927 | 3750 |
| 22 Mar. (81) . . | 1 Sun. . | 1 15 0 | 19 Mar. (78) . . | 5 Thur. . | 1-2005 | 3751 |
| 22 Mar. (81) . . | 2 Mon. . | 7 27 30 | 9 Mar. (68) . . | 3 Tues. . | 215-5157 | 3752 |
| 22 Mar. (81) . . | 3 Tues. . | 13 40 0 | 26 Feb. (57) . . | 0 Sat. . | 91-1991 | 3753 |
| 21 Mar. (81) . . | 4 Wed. . | 19 52 30 | 16 Mar. (75) . . | 6 Fri. . | 125-8387 | 3754 |
| 22 Mar. (81) . . | 6 Fri. . | 2 5 0 | 5 Mar. (64) . . | 3 Tues. . | 1-5221 | 3755 |
| 22 Mar. (81) . . | 0 Sat. . | 8 17 30 | 23 Feb. (54) . . | 1 Sun. . | 215-8374 | 3756 |
| 22 Mar. (81) . . | 1 Sun. . | 14 30 0 | 14 Mar. (73) . . | 0 Sat. . | 250-4779 | 3757 |
| 21 Mar. (81) . . | 2 Mon. . | 20 42 30 | 2 Mar. (62) . . | 4 Wed. . | 126-1604 | 3758 |
| 22 Mar. (81) . . | 4 Wed. . | 2 55 0 | 21 Mar. (80) . . | 3 Tues. . | 160-8000 | 3759 |
| 22 Mar. (81) . . | 5 Thur. . | 9 7 30 | 10 Mar. (69) . . | 0 Sat. . | 36-4834 | 3760 |
| 22 Mar. (81) . . | 6 Fri. . | 15 20 0 | 28 Feb. (59) . . | 5 Thur. . | 250-7987 | 3761 |
| 21 Mar. (81) . . | 0 Sat. . | 21 32 30 | 18 Mar. (78) . . | 4 Wed. . | 285-4383 | 3762 |
| 22 Mar. (81) . . | 2 Mon. . | 3 45 0 | 7 Mar. (66) . . | 1 Sun. . | 161-1217 | 3763 |
| 22 Mar. (81) . . | 3 Tues. . | 9 57 30 | 24 Feb. (55) . . | 5 Thur. . | 36-8051 | 3764 |
| 22 Mar. (81) . . | 4 Wed. . | 16 10 0 | 13 Mar. (74) . . | 4 Wed. . | 71-4447 | 3765 |
| 21 Mar. (81) . . | 5 Thur. . | 22 22 30 | 4 Mar. (64) . . | 2 Mon. . | 285-7599 | 3766 |
| 22 Mar. (81) . . | 0 Sat. . | 4 35 0 | 21 Feb. (52) . . | 6 Fri. . | 131-4433 | 3767 |
| 22 Mar. (81) . . | 1 Sun. . | 10 47 30 | 12 Mar. (71) . . | 5 Thur. . | 196-0830 | 3768 |
| 22 Mar. (81) . . | 2 Mon. . | 17 0 0 | 1 Mar. (60) . . | 2 Mon. . | 71-7603 | 3769 |
| 21 Mar. (81) . . | 3 Tues. . | 23 12 30 | 18 Mar. (78) . . | 1 Sun. . | 106-4060 | 3770 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshīdi solar year in Bengal. | Kollam. | A.D. | JOVIAL SAMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3771 | 592 | 727 | 76 | | 669-70 | 1 Prabhava . . . | ... | |
| 3772 | 593 | 728 | 77 | | 670-71 | 2 Vibhava . . . | 6 Bhādrapada | |
| 3773 | 594 | 729 | 78 | | 671-72 | 3 Śukla . . . | ... | |
| 3774 | 595 | 730 | 79 | | *672-73 | 4 Pramōda . . . | ... | |
| 3775 | 596 | 731 | 80 | | 673-74 | 5 Prajāpati . . . | 3 Jyēṣṭha . | |
| 3776 | 597 | 732 | 81 | | 674-75 | 6 Aṅgīras . . . | ... | |
| 3777 | 598 | 733 | 82 | | 675-76 | 7 Śrimukha . . . | 11 Māgha . | |
| 3778 | 599 | 734 | 83 | | *676-77 | 8 Bhāva . . . | ... | |
| 3779 | 600 | 735 | 84 | | 677-78 | 9 Yavan . . . | ... | |
| 3780 | 601 | 736 | 85 | | 678-79 | 10 Dhātṛi . . . | 8 Kārttika . | |
| 3781 | 602 | 737 | 86 | | 679-80 | 11 Ivara . . . | ... | |
| 3782 | 603 | 738 | 87 | | *680-81 | 12 Bahudhānya . . . | ... | |
| 3783 | 604 | 739 | 88 | | 681-82 | 13 Pramādin . . . | 5 Śrāvana . | |
| 3784 | 605 | 740 | 89 | | 682-83 | 14 Vikrama . . . | ... | |
| 3785 | 606 | 741 | 90 | | 683-84 | 15 Vṛisha . . . | ... | |
| 3786 | 607 | 742 | 91 | | *684-85 | 16 Chitrabhānu . . . | 1 Chaitra . | |
| 3787 | 608 | 743 | 92 | | 685-86 | 17 Subhānu . . . | ... | |
| 3788 | 609 | 744 | 93 | | 686-87 | 18 Tāraṇa . . . | 10 Pausa . | |
| 3789 | 610 | 745 | 94 | | 687-88 | 19 Pārthiva . . . | ... | |
| 3790 | 611 | 746 | 95 | | *688-89 | 20 Vyaya . . . | ... | |
| 3791 | 612 | 747 | 96 | | 689-90 | 21 Sarvajit . . . | 6 Bhādrapada | |
| 3792 | 613 | 748 | 97 | | 690-91 | 22 Sarvadhārin . . . | ... | |
| 3793 | 614 | 749 | 98 | | 691-92 | 23 Virōdhin . . . | ... | |
| 3794 | 615 | 750 | 99 | | *692-93 | 24 Vikṛita . . . | 3 Jyēṣṭha . | |
| 3795 | 616 | 751 | 100 | | 693-94 | 25 Khara . . . | ... | |

LXXVI—Contd.

† Ārya Siddhānta, mean system.

| COMMENCEMETN OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|-----------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 22 Mar. (81) . . | 5 Thur. . . | 5 25 0 | 9 Mar. (68) . . | 6 Fri. . . | 320-7213 | 3771 |
| 22 Mar. (81) . . | 6 Fri. . . | 11 37 30 | 20 Feb. (57) . . | 3 Tues. . . | 196-4016 | 3772 |
| 22 Mar. (81) . . | 0 Sat. . . | 17 50 0 | 17 Mar. (76) . . | 2 Mon. . . | 231-0442 | 3773 |
| 22 Mar. (82) . . | 2 Mon. . . | 0 2 30 | 5 Mar. (65) . . | 6 Fri. . . | 106-7276 | 3774 |
| 22 Mar. (81) . . | 3 Tues. . . | 6 15 0 | 23 Feb. (54) . . | 4 Wed. . . | 321-0429 | 3775 |
| 22 Mar. (81) . . | 4 Wed. . . | 12 27 30 | 13 Mar. (72) . . | 2 Mon. . . | 17-0506 | 3776 |
| 22 Mar. (81) . . | 5 Thur. . . | 18 40 0 | 3 Mar. (62) . . | 0 Sat. . . | 231-3658 | 3777 |
| 22 Mar. (82) . . | 0 Sat. . . | 0 52 30 | 21 Mar. (81) . . | 6 Fri. . . | 266-0054 | 3778 |
| 22 Mar. (81) . . | 1 Sun. . . | 7 5 0 | 10 Mar. (69) . . | 3 Tues. . . | 141-6888 | 3779 |
| 22 Mar. (81) . . | 2 Mon. . . | 13 17 30 | 27 Feb. (58) . . | 0 Sat. . . | 17-3723 | 3780 |
| 22 Mar. (81) . . | 3 Tues. . . | 19 30 0 | 18 Mar. (77) . . | 6 Fri. . . | 52-0118 | 3781 |
| 22 Mar. (82) . . | 5 Thur. . . | 1 42 30 | 7 Mar. (67) . . | 4 Wed. . . | 266-3271 | 3782 |
| 22 Mar. (81) . . | 6 Fri. . . | 7 55 0 | 24 Feb. (55) . . | 1 Sun. . . | 142-0105 | 3783 |
| 22 Mar. (81) . . | 0 Sat. . . | 14 7 30 | 15 Mar. (74) . . | 0 Sat. . . | 176-0501 | 3784 |
| 22 Mar. (81) . . | 1 Sun. . . | 20 20 0 | 4 Mar. (63) . . | 4 Wed. . . | 52-3334 | 3785 |
| 22 Mar. (82) . . | 3 Tues. . . | 2 32 30 | 22 Feb. (53) . . | 2 Mon. . . | 266-6487 | 3786 |
| 22 Mar. (81) . . | 4 Wed. . . | 8 45 0 | 12 Mar. (71) . . | 1 Sun. . . | 301-2884 | 3787 |
| 22 Mar. (81) . . | 5 Thur. . . | 14 57 30 | 1 Mar. (60) . . | 5 Thur. . . | 176-9717 | 3788 |
| 22 Mar. (81) . . | 6 Fri. . . | 21 10 0 | 20 Mar. (76) . . | 4 Wed. . . | 211-6114 | 3789 |
| 22 Mar. (82) . . | 1 Sun. . . | 3 22 30 | 8 Mar. (68) . . | 1 Sun. . . | 87-2948 | 3790 |
| 22 Mar. (81) . . | 2 Mon. . . | 9 35 0 | 26 Feb. (57) . . | 6 Fri. . . | 301-6100 | 3791 |
| 22 Mar. (81) . . | 3 Tues. . . | 15 47 30 | 16 Mar. (75) . . | 4 Wed. . . | 0097-6177† | 3792 |
| 22 Mar. (81) . . | 4 Wed. . . | 22 0 0 | 6 Mar. (65) . . | 2 Mon. . . | 211-9330 | 3793 |
| 22 Mar. (82) . . | 5 Fri. . . | 4 12 30 | 23 Feb. (54) . . | 6 Fri. . . | 87-6164 | 3794 |
| 22 Mar. (81) . . | 0 Sat. . . | 10 25 0 | 13 Mar. (72) . . | 5 Thur. . . | 122-2560 | 3795 |

† As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the mean luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māchādi solar year in Bengal. | Kollam. | A.D. | Jovian SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3796 | 617 | 752 | 101 | | 694-95 | 26 Nandana . . . | | 11 Māgha . |
| 3797 | 618 | 753 | 102 | | 695-96 | 27 Vijaya . . . | | ... |
| 3798 | 619 | 754 | 103 | | *696-97 | 28 Jaya . . . | | ... |
| 3799 | 620 | 755 | 104 | | 697-98 | 29 Manmatha . . . | | 8 Kārttika . |
| 3800 | 621 | 756 | 105 | | 698-99 | 30 Durmukha . . . | | ... |
| 3801 | 622 | 757 | 106 | | 699-700 | 31 Hēmalamba . . . | | ... |
| 3802 | 623 | 758 | 107 | | *700-01 | 32 Vilamba . . . | | 4 Āshāḍha . |
| 3803 | 624 | 759 | 108 | | 701-02 | 33 Vikārin . . . | | ... |
| 3804 | 625 | 760 | 109 | | 702-03 | 34 Śārvarin . . . | | ... |
| 3805 | 626 | 761 | 110 | | 703-04 | 35 Plava . . . | | 1 Chaitra . |
| 3806 | 627 | 762 | 111 | | *704-05 | 36 Subhakṛit . . . | | ... |
| 3807 | 628 | 763 | 112 | | 705-06 | 37 Śōbhana . . . | | 9 Mārgaśira . |
| 3808 | 629 | 764 | 113 | | 706-07 | 38 Krōḍhin . . . | | ... |
| 3809 | 630 | 765 | 114 | | 707-08 | 39 Viśvāvasu . . . | | ... |
| 3810 | 631 | 766 | 115 | | *708-09 | 40 Parābhava . . . | | 6 Bhādrapada |
| 3811 | 632 | 767 | 116 | | 709-10 | 41 Plavaṅga . . . | | ... |
| 3812 | 633 | 768 | 117 | | 710-11 | 42 Kīlaka . . . | | ... |
| 3813 | 634 | 769 | 118 | | 711-12 | 43 Saumya . . . | | 2 Vaiśākha . |
| 3814 | 635 | 770 | 119 | | *712-13 | 44 Sādhāranya . . . | | ... |
| 3815 | 636 | 771 | 120 | | 713-14 | 45 Virōdhakṛit . . . | | 11 Mēgha . |
| 3816 | 637 | 772 | 121 | | 714-15 | 46 Paridhāvin . . . | | ... |
| 3817 | 638 | 773 | 122 | | 715-16 | 47 Pramādin . . . | | ... |
| 3818 | 639 | 774 | 123 | | *716-17 | 48 Ānanda . . . | | 8 Kārttika† . |
| 3819 | 640 | 775 | 124 | | 717-18 | 49 Rākshasa . . . | | ... |
| 3820 | 641 | 776 | 125 | | 718-19 | 50 Anala . . . | | ... |

† By the "Indian Calendar" 7 Āśvina was intercalated but the case was a close one.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | Kali year |
|---------------------|-----------|-------------------------------|---|-----------|---|-----------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Māsha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here= <i>i</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 22 Mar. (81) . . | 1 Sun. . | 16 37 30 | 2 Mar. (61) . . | 2 Mon. . | 9997-9394† | 3796 |
| 22 Mar. (81) . . | 2 Mon. . | 22 50 0 | 21 Mar. (80) . . | 1 Sun. . | 32-5790 | 3797 |
| 22 Mar. (82) . . | 4 Wed. . | 5 2 30 | 10 Mar. (70) . . | 6 Fri. . | 246-8943 | 3798 |
| 22 Mar. (81) . . | 5 Thur. . | 11 15 0 | 27 Feb. (58) . . | 3 Tues. . | 122-5777 | 3799 |
| 22 Mar. (81) . . | 6 Fri. . | 17 27 30 | 18 Mar. (77) . . | 2 Mon. . | 157-2173 | 3800 |
| 22 Mar. (81) . . | 0 Sat. . | 23 40 0 | 7 Mar. (66) . . | 6 Fri. . | 32-9006 | 3801 |
| 22 Mar. (82) . . | 2 Mon. . | 5 52 30 | 26 Feb. (56) . . | 4 Wed. . | 247-2159 | 3802 |
| 22 Mar. (81) . . | 3 Tues. . | 12 5 0 | 15 Mar. (74) . . | 3 Tues. . | 281-8555 | 3803 |
| 22 Mar. (81) . . | 4 Wed. . | 18 37 30 | 4 Mar. (63) . . | 0 Sat. . | 157-5389 | 3804 |
| 23 Mar. (82) . . | 6 Fri. . | 0 30 0 | 21 Feb. (52) . . | 4 Wed. . | 33-2223 | 3805 |
| 22 Mar. (82) . . | 0 Sat. . | 6 42 30 | 11 Mar. (71) . . | 3 Tues. . | 67-8619 | 3806 |
| 22 Mar. (81) . . | 1 Sun. . | 12 55 0 | 1 Mar. (60) . . | 1 Sun. . | 282-1771 | 3807 |
| 22 Mar. (81) . . | 2 Mon. . | 19 7 30 | 20 Mar. (79) . . | 0 Sat. . | 316-8168 | 3808 |
| 23 Mar. (82) . . | 4 Wed. . | 1 20 0 | 9 Mar. (68) . . | 4 Wed. . | 192-5062 | 3809 |
| 22 Mar. (82) . . | 5 Thur. . | 7 32 30 | 28 Feb. (57) . . | 1 Sun. . | 68-1835 | 3810 |
| 22 Mar. (81) . . | 6 Fri. . | 13 45 0 | 16 Mar. (75) . . | 0 Sat. . | 102-8231 | 3811 |
| 22 Mar. (81) . . | 0 Sat. . | 19 57 30 | 6 Mar. (65) . . | 5 Thur. . | 317-1384 | 3812 |
| 23 Mar. (82) . . | 2 Mon. . | 2 10 0 | 23 Feb. (54) . . | 2 Mon. . | 192-8218 | 3812 |
| 22 Mar. (82) . . | 3 Tues. . | 8 22 30 | 13 Mar. (73) . . | 1 Sun. . | 227-4614 | 3814 |
| 22 Mar. (81) . . | 4 Wed. . | 14 35 0 | 2 Mar. (61) . . | 5 Thur. . | 103-1447 | 3815 |
| 22 Mar. (81) . . | 5 Thur. . | 20 47 30 | 21 Mar. (80) . . | 4 Wed. . | 137-7843 | 3816 |
| 23 Mar. (82) . . | 0 Sat. . | 3 0 0 | 10 Mar. (69) . . | 1 Sun. . | 13-4678 | 3817 |
| 22 Mar. (82) . . | 1 Sun. . | 9 12 30 | 28 Feb. (59) . . | 6 Fri. . | 227-7831 | 3818 |
| 22 Mar. (81) . . | 2 Mon. . | 15 25 0 | 18 Mar. (77) . . | 5 Thur. . | 262-4226 | 3819 |
| 22 Mar. (81) . . | 3 Tues. . | 21 37 30 | 7 Mar. (66) . . | 2 Mon. . | 138-1060 | 3820 |

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Saka. | Chaitrâdi Vikrama. | Môhâdi solar year in Bengal. | Kollam. | A.D. | JOVIAN SÂMVATHARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3821 | 642 | 777 | 126 | | 719-20 | 51 Pîngala . . . | | 4 Âshâdha . |
| 3822 | 643 | 778 | 127 | | *720-21 | 52 Kâlayukta . . | | ... |
| 3823 | 644 | 779 | 128 | | 721-22 | 53 Siddhârthin . . | | ... |
| 3824 | 645 | 780 | 129 | | 722-23 | 54 Raudra . . . | | 1 Chaitra . |
| 3825 | 646 | 781 | 130 | | 723-24 | 55 Durmati . . . | | ... |
| 3826 | 647 | 782 | 131 | | *724-25 | 56 Dundubhi . . . | | 9 Mârgasîra . |
| 3827 | 648 | 783 | 132 | | 725-26 | 57 Rudhirôdgârin . . | | ... |
| 3828 | 649 | 784 | 133 | | 726-27 | 58 Raktâksha . . . | | ... |
| 3829 | 650 | 785 | 134 | | 727-28 | 59 Krôdhana . . . | | 6 Bhâdrapada |
| 3830 | 651 | 786 | 135 | | *728-29 | 60 Kshaya . . . | | ... |
| 3831 | 652 | 787 | 136 | | 729-30 | 1 Prabhava . . . | | ... |
| 3832 | 653 | 788 | 137 | | 730-31 | 2 Vibhava . . . | | 2 Vaiâkha . |
| 3833 | 654 | 789 | 138 | | 731-32 | 3 Sukla . . . | | ... |
| 3834 | 655 | 790 | 139 | | *732-33 | 4 Pramôda . . . | | 11 Mâgha . |
| 3835 | 656 | 791 | 140 | | 733-34 | 5 Prajâpati . . . | | ... |
| 3836 | 657 | 792 | 141 | | 734-35 | 6 Ângirast† . . . | | ... |
| 3837 | 658 | 793 | 142 | | 735-36 | 8 Bhôma . . . | | 7 Âsvina . |
| 3838 | 659 | 794 | 143 | | *736-37 | 9 Yuvan . . . | | ... |
| 3839 | 660 | 795 | 144 | | 737-38 | 10 Dhât†ri . . . | | ... |
| 3840 | 661 | 796 | 145 | | 738-39 | 11 Jivra . . . | | 4 Âshâdha . |
| 3841 | 662 | 797 | 146 | | 739-40 | 12 Bahudhânya . . | | ... |
| 3842 | 663 | 798 | 147 | | *740-41 | 13 Pramâthin . . . | | 12 Phâlguna . |
| 3843 | 664 | 799 | 148 | | 741-42 | 14 Vikrama . . . | | ... |
| 3844 | 665 | 800 | 149 | | 742-43 | 15 Vrisha . . . | | ... |
| 3845 | 666 | 801 | 150 | | 743-44 | 16 Chitrabhâna . . | | 9 Mârgasîra . |

† By the mean system, as well as by the true system, 7 Śtimukha was expunged.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 23 Mar. (82) . . | 5 Thur. . . | 3 50 0 | 24 Feb. (55) . . | 6 Fri. . . | 13-7894 | 3821 |
| 22 Mar. (82) . . | 6 Fri. . . | 10 2 30 | 14 Mar. (74) . . | 5 Thur. . . | 48-4290 | 3822 |
| 22 Mar. (81) . . | 0 Sat. . . | 16 15 0 | 4 Mar. (63) . . | 3 Tues. . . | 262-7443 | 3823 |
| 22 Mar. (81) . . | 1 Sun. . . | 22 27 30 | 21 Feb. (52) . . | 0 Sat. . . | 138-4276 | 3824 |
| 23 Mar. (82) . . | 3 Tues. . . | 4 40 0 | 12 Mar. (71) . . | 6 Fri. . . | 173-0673 | 3825 |
| 22 Mar. (82) . . | 4 Wed. . . | 10 52 30 | 29 Feb. (60) . . | 3 Tues. . . | 48-7506 | 3826 |
| 22 Mar. (81) . . | 5 Thur. . . | 17 5 0 | 19 Mar. (78) . . | 2 Mon. . . | 83-3903 | 3827 |
| 22 Mar. (81) . . | 6 Fri. . . | 23 17 30 | 9 Mar. (68) . . | 0 Sat. . . | 297-7055 | 3828 |
| 23 Mar. (82) . . | 1 Sun. . . | 5 30 0 | 26 Feb. (57) . . | 4 Wed. . . | 173-3890 | 3829 |
| 22 Mar. (82) . . | 2 Mon. . . | 11 42 30 | 16 Mar. (76) . . | 3 Tues. . . | 208-0286 | 3830 |
| 22 Mar. (81) . . | 3 Tues. . . | 17 55 0 | 5 Mar. (64) . . | 0 Sat. . . | 83-7119 | 3831 |
| 23 Mar. (82) . . | 5 Thur. . . | 0 7 30 | 23 Feb. (54) . . | 5 Thur. . . | 298-0272 | 3832 |
| 23 Mar. (82) . . | 6 Fri. . . | 6 20 0 | 14 Mar. (73) . . | 4 Wed. . . | 332-6669 | 3833 |
| 22 Mar. (82) . . | 0 Sat. . . | 12 32 30 | 2 Mar. (62) . . | 1 Sun. . . | 208-3502 | 3834 |
| 22 Mar. (81) . . | 1 Sun. . . | 18 45 0 | 21 Mar. (80) . . | 0 Sat. . . | 242-9898 | 3835 |
| 23 Mar. (82) . . | 3 Tues. . . | 0 57 30 | 10 Mar. (69) . . | 4 Wed. . . | 118-6732 | 3836 |
| 23 Mar. (82) . . | 4 Wed. . . | 7 10 0 | 28 Feb. (59) . . | 2 Mon. . . | 332-9885 | 3837 |
| 22 Mar. (82) . . | 5 Thur. . . | 13 22 30 | 17 Mar. (77) . . | 0 Sat. . . | 28-9962 | 3838 |
| 22 Mar. (81) . . | 6 Fri. . . | 19 35 0 | 7 Mar. (66) . . | 5 Thur. . . | 243-3115 | 3839 |
| 23 Mar. (82) . . | 1 Sun. . . | 1 47 30 | 24 Feb. (55) . . | 2 Mon. . . | 118-9949 | 3840 |
| 23 Mar. (82) . . | 2 Mon. . . | 8 0 0 | 15 Mar. (74) . . | 1 Sun. . . | 153-6345 | 3841 |
| 22 Mar. (82) . . | 3 Tues. . . | 14 12 30 | 3 Mar. (63) . . | 5 Thur. . . | 29-3179 | 3842 |
| 22 Mar. (81) . . | 4 Wed. . . | 20 25 0 | 22 Mar. (81) . . | 4 Wed. . . | 63-9555 | 3843 |
| 23 Mar. (82) . . | 6 Fri. . . | 2 37 30 | 12 Mar. (71) . . | 2 Mon. . . | 278-2728 | 3844 |
| 23 Mar. (82) . . | 0 Sat. . . | 8 50 0 | 1 Mar. (60) . . | 6 Fri. . . | 153-9561 | 3845 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3846 | 667 | 802 | 151 | | *744-45 | 17 Subhāna . . . | | ... |
| 3847 | 668 | 803 | 152 | | 745-46 | 18 Tārāga . . . | | ... |
| 3848 | 669 | 804 | 153 | | 746-47 | 19 Pārthiva . . . | | 5 Śrāvapa . |
| 3849 | 670 | 805 | 154 | | 747-48 | 20 Vyaya . . . | | ... |
| 3850 | 671 | 806 | 155 | | *748-49 | 21 Sarvajit . . . | | ... |
| 3851 | 672 | 807 | 156 | | 749-50 | 22 Sarvadhātini . . | | 2 Vaiśākha . |
| 3852 | 673 | 808 | 157 | | 750-51 | 23 Virōdhi . . . | | ... |
| 3853 | 674 | 809 | 158 | | 751-52 | 24 Vikṛita . . . | | 10 Paurṣa . |
| 3854 | 675 | 810 | 159 | | *752-53 | 25 Khara . . . | | ... |
| 3855 | 676 | 811 | 160 | | 753-54 | 26 Nandana . . . | | ... |
| 3856 | 677 | 812 | 161 | | 754-55 | 27 Vijaya . . . | | 7 Āvina . |
| 3857 | 678 | 813 | 162 | | 755-56 | 28 Jaya . . . | | ... |
| 3858 | 679 | 814 | 163 | | *756-57 | 29 Manmatha . . . | | ... |
| 3859 | 680 | 815 | 164 | | 757-58 | 30 Durmukha . . . | | 4 Āshāḍha . |
| 3860 | 681 | 816 | 165 | | 758-59 | 31 Hēmalamba . . . | | ... |
| 3861 | 682 | 817 | 166 | | 759-60 | 32 Vilamba . . . | | 12 Phālguna . |
| 3862 | 683 | 818 | 167 | | *760-61 | 33 Vikārin . . . | | ... |
| 3863 | 684 | 819 | 168 | | 761-62 | 34 Śarvarin . . . | | ... |
| 3864 | 685 | 820 | 169 | | 762-63 | 35 Plava . . . | | 9 Mārgaśira . |
| 3865 | 686 | 821 | 170 | | 763-64 | 36 Subhakti . . . | | ... |
| 3866 | 687 | 822 | 171 | | *764-65 | 37 Sōbhana . . . | | ... |
| 3867 | 688 | 823 | 172 | | 765-66 | 38 Krōdhi . . . | | 5 Śrāvapa . |
| 3868 | 689 | 824 | 173 | | 766-67 | 39 Viśvāvasu . . . | | ... |
| 3869 | 690 | 825 | 174 | | 767-68 | 40 Parābhava . . . | | ... |
| 3870 | 691 | 826 | 175 | | *768-69 | 41 Plavaṅga . . . | | 2 Vaiśākha . |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | <i>n</i> (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 22 Mar. (82) . . | 1 Sun. . | 15 2 30 | 19 Mar. (79) . . | 5 Thur. . | 188-5957 | 3846 |
| 22 Mar. (81) . . | 2 Mon. . | 21 15 0 | 8 Mar. (67) . . | 2 Mon. . | 64-2790 | 3847 |
| 23 Mar. (82) . . | 4 Wed. . | 3 27 30 | 26 Feb. (57) . . | 0 Sat. . | 278-5944 | 3848 |
| 23 Mar. (82) . . | 5 Thur. . | 9 40 0 | 17 Mar. (76) . . | 6 Fri. . | 313-2341 | 3849 |
| 22 Mar. (82) . . | 6 Fri. . | 15 52 30 | 5 Mar. (65) . . | 3 Tues. . | 188-9173 | 3850 |
| 22 Mar. (81) . . | 0 Sat. . | 22 5 0 | 22 Feb. (53) . . | 0 Sat. . | 64-6007 | 3851 |
| 23 Mar. (82) . . | 2 Mon. . | 4 17 30 | 13 Mar. (72) . . | 6 Fri. . | 99-2404 | 3852 |
| 23 Mar. (82) . . | 3 Tues. . | 10 30 0 | 3 Mar. (62) . . | 4 Wed. . | 313-5556 | 3853 |
| 22 Mar. (82) . . | 4 Wed. . | 16 42 30 | 20 Mar. (80) . . | 2 Mon. . | 9-5633 | 3854 |
| 22 Mar. (81) . . | 5 Thur. . | 22 55 0 | 10 Mar. (69) . . | 0 Sat. . | 223-8786 | 3855 |
| 23 Mar. (82) . . | 0 Sat. . | 5 7 30 | 27 Feb. (58) . . | 4 Wed. . | 90-5620 | 3856 |
| 23 Mar. (82) . . | 1 Sun. . | 11 20 0 | 18 Mar. (77) . . | 3 Tues. . | 134-2016 | 3857 |
| 22 Mar. (82) . . | 2 Mon. . | 17 32 30 | 6 Mar. (66) . . | 0 Sat. . | 9-8850 | 3858 |
| 22 Mar. (81) . . | 3 Tues. . | 23 45 0 | 24 Feb. (55) . . | 5 Thur. . | 224-2003 | 3859 |
| 23 Mar. (82) . . | 5 Thur. . | 5 57 30 | 15 Mar. (74) . . | 4 Wed. . | 258-8399 | 3860 |
| 23 Mar. (82) . . | 6 Fri. . | 12 10 0 | 4 Mar. (63) . . | 1 Sun. . | 134-5233 | 3861 |
| 22 Mar. (82) . . | 0 Sat. . | 18 22 30 | 22 Mar. (82) . . | 0 Sat. . | 169-1628 | 3862 |
| 23 Mar. (82) . . | 2 Mon. . | 0 35 0 | 11 Mar. (70) . . | 4 Wed. . | 44-8483 | 3863 |
| 23 Mar. (82) . . | 3 Tues. . | 6 47 30 | 1 Mar. (60) . . | 2 Mon. . | 259-1616 | 3864 |
| 23 Mar. (82) . . | 4 Wed. . | 13 0 0 | 20 Mar. (79) . . | 1 Sun. . | 293-8612 | 3865 |
| 22 Mar. (82) . . | 5 Thur. . | 19 12 30 | 8 Mar. (68) . . | 5 Thur. . | 169-4846 | 3866 |
| 23 Mar. (82) . . | 0 Sat. . | 1 25 0 | 25 Feb. (59) . . | 2 Mon. . | 45-1680 | 3867 |
| 23 Mar. (82) . . | 1 Sun. . | 7 37 30 | 16 Mar. (75) . . | 1 Sun. . | 79-8076 | 3868 |
| 23 Mar. (82) . . | 2 Mon. . | 13 50 0 | 6 Mar. (65) . . | 6 Fri. . | 204-1223 | 3869 |
| 22 Mar. (82) . . | 3 Tues. . | 20 2 30 | 23 Feb. (54) . . | 3 Tues. . | 169-8062 | 3870 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēśādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3871 | 692 | 827 | 176 | | 769-70 | 42 Kīlaka . . . | | ... |
| 3872 | 693 | 828 | 177 | | 770-71 | 43 Saumya . . . | | 10 Pausa . |
| 3873 | 694 | 829 | 178 | | 771-72 | 44 Sādhāraṇa . . . | | ... |
| 3874 | 695 | 830 | 179 | | *772-73 | 45 Virōdhakṣit . . . | | ... |
| 3875 | 696 | 831 | 180 | | 773-74 | 46 Paridhāvin . . . | | 7 Āśvina . |
| 3876 | 697 | 832 | 181 | | 774-75 | 47 Pramādin . . . | | ... |
| 3877 | 698 | 833 | 182 | | 775-76 | 48 Ānanda . . . | | ... |
| 3878 | 699 | 834 | 183 | | *776-77 | 49 Rākhaṣa . . . | | 3 Jyēṣṭha . |
| 3879 | 700 | 835 | 184 | | 777-78 | 50 Anala . . . | | ... |
| 3880 | 701 | 836 | 185 | | 778-79 | 51 Pīṅgala . . . | | 12 Phālguna . |
| 3881 | 702 | 837 | 186 | | 779-80 | 52 Kālayukta . . . | | ... |
| 3882 | 703 | 838 | 187 | | *780-81 | 53 Siddhārthin . . . | | ... |
| 3883 | 704 | 839 | 188 | | 781-82 | 54 Raudra . . . | | 8 Kārttika . |
| 3884 | 705 | 840 | 189 | | 782-83 | 55 Durmatī . . . | | ... |
| 3885 | 706 | 841 | 190 | | 783-84 | 56 Dundubhī . . . | | ... |
| 3886 | 707 | 842 | 191 | | *784-85 | 57 Rudhīrōdgārin . . . | | 5 Śrāvaṇa . |
| 3887 | 708 | 843 | 192 | | 785-86 | 58 Raktākṣa . . . | | ... |
| 3888 | 709 | 844 | 193 | | 786-87 | 59 Krōdhana . . . | | ... |
| 3889 | 710 | 845 | 194 | | 787-88 | 60 Kṣaya . . . | | 1 Chaitra . |
| 3890 | 711 | 846 | 195 | | *788-89 | 1 Prabhava . . . | | ... |
| 3891 | 712 | 847 | 196 | | 789-90 | 2 Vibhava . . . | | 10 Pausa . |
| 3892 | 713 | 848 | 197 | | 790-91 | 3 Sukla . . . | | ... |
| 3893 | 714 | 849 | 198 | | 791-92 | 4 Pramōda . . . | | ... |
| 3894 | 715 | 850 | 199 | | *792-93 | 5 Prajāpati . . . | | 7 Āśvina . |
| 3895 | 716 | 851 | 200 | | 793-94 | 6 Angiras . . . | | ... |

† By the "Indian Calendar" 5 Bhādrapada was intercalated.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|-----------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Klai year |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 23 Mar. (82) . . . | 5 Thur. . . | 2 15 0 | 13 Mar. (72) . . . | 2 Mon. . . | 204-4459 | 3871 |
| 23 Mar. (82) . . . | 6 Fri. . . | 8 27 30 | 2 Mar. (61) . . . | 6 Fri. . . | 80-1292 | 3872 |
| 23 Mar. (82) . . . | 0 Sat. . . | 14 40 0 | 21 Mar. (80) . . . | 5 Thur. . . | 114-7688 | 3873 |
| 22 Mar. (82) . . . | 1 Sun. . . | 20 52 30 | 10 Mar. (70) . . . | 3 Tues. . . | 329-0841 | 3874 |
| 23 Mar. (82) . . . | 3 Tues. . . | 3 5 0 | 27 Feb. (58) . . . | 0 Sat. . . | 204-7675 | 3875 |
| 23 Mar. (82) . . . | 4 Wed. . . | 9 17 30 | 18 Mar. (77) . . . | 6 Fri. . . | 239-4071 | 3876 |
| 23 Mar. (82) . . . | 5 Thur. . . | 15 30 0 | 7 Mar. (66) . . . | 3 Tues. . . | 115-0904 | 3877 |
| 22 Mar. (82) . . . | 6 Fri. . . | 21 42 30 | 25 Feb. (56) . . . | 1 Sun. . . | 329-4057 | 3878 |
| 23 Mar. (82) . . . | 1 Sun. . . | 3 55 0 | 14 Mar. (73) . . . | 6 Fri. . . | 25-4134 | 3879 |
| 23 Mar. (82) . . . | 2 Mon. . . | 10 7 30 | 4 Mar. (63) . . . | 4 Wed. . . | 239-7288 | 3880 |
| 23 Mar. (82) . . . | 3 Tues. . . | 16 20 0 | 23 Mar. (82) . . . | 3 Tues. . . | 274-3682 | 3881 |
| 22 Mar. (82) . . . | 4 Wed. . . | 22 32 30 | 11 Mar. (71) . . . | 0 Sat. . . | 150-0517 | 3882 |
| 23 Mar. (82) . . . | 6 Fri. . . | 4 45 0 | 28 Feb. (59) . . . | 4 Wed. . . | 25-7351 | 3883 |
| 23 Mar. (82) . . . | 0 Sat. . . | 10 57 30 | 19 Mar. (78) . . . | 3 Tues. . . | 60-3747 | 3884 |
| 23 Mar. (82) . . . | 1 Sun. . . | 17 10 0 | 9 Mar. (68) . . . | 1 Sun. . . | 274-6900 | 3885 |
| 22 Mar. (82) . . . | 2 Mon. . . | 23 22 30 | 26 Feb. (57) . . . | 5 Thur. . . | 150-3734 | 3886 |
| 23 Mar. (82) . . . | 4 Wed. . . | 5 35 0 | 16 Mar. (75) . . . | 4 Wed. . . | 185-0130 | 3887 |
| 23 Mar. (82) . . . | 5 Thur. . . | 11 47 30 | 5 Mar. (64) . . . | 1 Sun. . . | 60-6963 | 3888 |
| 23 Mar. (82) . . . | 6 Fri. . . | 18 0 0 | 23 Feb. (54) . . . | 6 Fri. . . | 275-0116 | 3889 |
| 23 Mar. (83) . . . | 1 Sun. . . | 0 12 30 | 13 Mar. (73) . . . | 5 Thur. . . | 309-6513 | 3890 |
| 23 Mar. (82) . . . | 2 Mon. . . | 6 25 0 | 2 Mar. (61) . . . | 2 Mon. . . | 185-3346 | 3891 |
| 23 Mar. (82) . . . | 3 Tues. . . | 12 37 30 | 21 Mar. (80) . . . | 1 Sun. . . | 219-9743 | 3892 |
| 23 Mar. (82) . . . | 4 Wed. . . | 18 50 0 | 10 Mar. (69) . . . | 5 Thur. . . | 95-6576 | 3893 |
| 23 Mar. (83) . . . | 6 Fri. . . | 1 2 30 | 23 Feb. (59) . . . | 3 Tues. . . | 309-9730 | 3894 |
| 23 Mar. (82) . . . | 0 Sat. . . | 7 15 0 | 17 Mar. (76) . . . | 1 Sun. . . | 5-9807 | 3895 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | Jovian Sām̐vatsara. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3896 | 717 | 852 | 201 | | 794-95 | 7 Śrīmukha . . . | | ... |
| 3897 | 718 | 853 | 202 | | 795-96 | 8 Bhāva . . . | | 3 Jyēshṭha . |
| 3898 | 719 | 854 | 203 | | *796-97 | 9 Yuvan . . . | | ... |
| 3899 | 720 | 855 | 204 | | 797-98 | 10 Dhātṛi . . . | | 12 Phālguna . |
| 3900 | 721 | 856 | 205 | | 798-99 | 11 Īvara . . . | | ... |
| 3901 | 722 | 857 | 206 | | 799-800 | 12 Bahudhānya . . | | ... |
| 3902 | 723 | 858 | 207 | | *800-01 | 13 Pramāthīn . . . | | 8 Kārttika . |
| 3903 | 724 | 859 | 208 | | 801-02 | 14 Vikrama . . . | | ... |
| 3904 | 725 | 860 | 209 | | 802-03 | 15 Vṛisha . . . | | ... |
| 3905 | 726 | 861 | 210 | | 803-04 | 16 Chitresbhānu . . | | 5 Śrāvapa . |
| 3906 | 727 | 862 | 211 | | *804-05 | 17 Subhānu . . . | | ... |
| 3907 | 728 | 863 | 212 | | 805-06 | 18 Tārapa . . . | | ... |
| 3908 | 729 | 864 | 213 | | 806-07 | 19 Pārthiva . . . | | 1 Chaitra . |
| 3909 | 730 | 865 | 214 | | 807-08 | 20 Vyaya . . . | | ... |
| 3910 | 731 | 866 | 215 | | *808-09 | 21 Sarvajit . . . | | 10 Pauṣa . |
| 3911 | 732 | 867 | 216 | | 809-10 | 22 Sarvadhārin . . | | ... |
| 3912 | 733 | 868 | 217 | | 810-11 | 23 Virōdhīn . . . | | ... |
| 3913 | 734 | 869 | 218 | | 811-12 | 24 Vīkṛita . . . | | 6 Bhādrapada. |
| 3914 | 735 | 870 | 219 | | *812-13 | 25 Khara . . . | | ... |
| 3915 | 736 | 871 | 220 | | 813-14 | 26 Nandana . . . | | ... |
| 3916 | 737 | 872 | 221 | | 814-15 | 27 Vijaya . . . | | 3 Jyēshṭha . |
| 3917 | 738 | 873 | 222 | | 815-16 | 28 Jaya . . . | | ... |
| 3918 | 739 | 874 | 223 | | *816-17 | 29 Manmatha . . . | | 11 Māgha . |
| 3919 | 740 | 875 | 224 | | 817-18 | 30 Durmukha . . . | | ... |
| 3920 | 741 | 876 | 225 | | 818-19 | 31 Hēmalamba . . | | ... |

LXXVI—Contd.

I Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | Kali year. |
|---------------------|-------------|-------------------------------|---|-------------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 23 Mar. (82) . . . | 1 Sun. . . | 13 27 30 | 7 Mar. (66) . . . | 6 Fri. . . | 220-2959 | 3896 |
| 23 Mar. (82) . . . | 2 Mon. . . | 19 40 0 | 24 Feb. (55) . . . | 3 Tues. . . | 95-9793 | 3897 |
| 23 Mar. (83) . . . | 4 Wed. . . | 1 52 30 | 14 Mar. (74) . . . | 2 Mon. . . | 130-6189 | 3898 |
| 23 Mar. (82) . . . | 5 Thur. . . | 8 5 0 | 3 Mar. (62) . . . | 6 Fri. . . | 6-3023 | 3899 |
| 23 Mar. (82) . . . | 6 Fri. . . | 14 17 30 | 22 Mar. (81) . . . | 5 Thur. . . | 40-9419 | 3900 |
| 23 Mar. (82) . . . | 0 Sat. . . | 20 30 0 | 12 Mar. (71) . . . | 3 Tues. . . | 255-2372 | 3901 |
| 23 Mar. (83) . . . | 2 Mon. . . | 2 42 30 | 29 Feb. (60) . . . | 0 Sat. . . | 130-9406 | 3902 |
| 23 Mar. (82) . . . | 3 Tues. . . | 8 55 0 | 19 Mar. (78) . . . | 6 Fri. . . | 165-5802 | 3903 |
| 23 Mar. (82) . . . | 4 Wed. . . | 15 7 30 | 8 Mar. (67) . . . | 3 Tues. . . | 41-2636 | 3904 |
| 23 Mar. (82) . . . | 5 Thur. . . | 21 20 0 | 26 Feb. (57) . . . | 1 Sun. . . | 255-5789 | 3905 |
| 23 Mar. (83) . . . | 0 Sat. . . | 3 32 30 | 16 Mar. (76) . . . | 0 Sat. . . | 290-2185 | 3906 |
| 23 Mar. (82) . . . | 1 Sun. . . | 9 45 0 | 5 Mar. (64) . . . | 4 Wed. . . | 165-9018 | 3907 |
| 23 Mar. (82) . . . | 2 Mon. . . | 15 57 30 | 22 Feb. (53) . . . | 1 Sun. . . | 41-5852 | 3908 |
| 23 Mar. (82) . . . | 3 Tues. . . | 22 10 0 | 13 Mar. (72) . . . | 0 Sat. . . | 76-2248 | 3909 |
| 23 Mar. (83) . . . | 5 Thur. . . | 4 22 30 | 2 Mar. (62) . . . | 5 Thur. . . | 290-5401 | 3910 |
| 23 Mar. (82) . . . | 6 Fri. . . | 10 35 0 | 21 Mar. (80) . . . | 4 Wed. . . | 325-1798 | 3911 |
| 23 Mar. (82) . . . | 0 Sat. . . | 16 47 30 | 10 Mar. (69) . . . | 1 Sun. . . | 200-8631 | 3912 |
| 23 Mar. (82) . . . | 1 Sun. . . | 23 0 0 | 27 Feb. (58) . . . | 5 Thur. . . | 76-5465 | 3913 |
| 23 Mar. (83) . . . | 3 Tues. . . | 5 12 30 | 17 Mar. (77) . . . | 4 Wed. . . | 111-1862 | 3914 |
| 23 Mar. (82) . . . | 4 Wed. . . | 11 25 0 | 7 Mar. (66) . . . | 2 Mon. . . | 325-5013 | 3915 |
| 23 Mar. (82) . . . | 5 Thur. . . | 17 37 30 | 24 Feb. (55) . . . | 6 Fri. . . | 201-1847 | 3916 |
| 23 Mar. (82) . . . | 6 Fri. . . | 23 50 0 | 15 Mar. (74) . . . | 5 Thur. . . | 235-8244 | 3917 |
| 23 Mar. (83) . . . | 1 Sun. . . | 6 2 30 | 3 Mar. (63) . . . | 2 Mon. . . | 131-5078 | 3918 |
| 23 Mar. (82) . . . | 2 Mon. . . | 12 15 0 | 22 Mar. (81) . . . | 1 Sun. . . | 146-1473 | 3919 |
| 23 Mar. (82) . . . | 3 Tues. . . | 18 27 30 | 11 Mar. (70) . . . | 5 Thur. . . | 21-8307 | 3920 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māhādī solar year in Bengal. | Kollam. | A. D. | JYOTIAN SAMVATŚARA. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3s | 4 | 5 | 6 | 7 | 8a |
| 3921 | 742 | 877 | 226 | | 819-20 | 32 Vibhanta† . . . | | 8 Kārttika . |
| 3922 | 743 | 878 | 227 | | *820-21 | 34 Śāraṅga . . . | | ... |
| 3923 | 744 | 879 | 228 | | 821-22 | 35 Pāṇa . . . | | ... |
| 3924 | 745 | 880 | 229 | | 822-23 | 36 Śākhāṇḍī . . . | | 4 Āshāḍha . |
| 3925 | 746 | 881 | 230 | | 823-24 | 37 Śākhāṇḍī . . . | | ... |
| 3926 | 747 | 882 | 231 | | *824-25 | 38 Krāśṭhī . . . | | ... |
| 3927 | 748 | 883 | 232 | 0-1 | 825-26 | 39 Vīṇāśaṅga . . . | | 1 Chaitra . |
| 3928 | 749 | 884 | 233 | 1-2 | 826-27 | 40 Parābhava . . . | | ... |
| 3929 | 750 | 885 | 234 | 2-3 | 827-28 | 41 Pāvāṅga . . . | | 10 Pāṇa . |
| 3930 | 751 | 886 | 235 | 3-4 | *828-29 | 42 Kīlaka . . . | | ... |
| 3931 | 752 | 887 | 236 | 4-5 | 829-30 | 43 Saumya . . . | | ... |
| 3932 | 753 | 888 | 237 | 5-6 | 830-31 | 44 Śādhārāṇa . . . | | 6 Bhādrapada. |
| 3933 | 754 | 889 | 238 | 6-7 | 831-32 | 45 Vīṇāśaṅga . . . | | ... |
| 3934 | 755 | 890 | 239 | 7-8 | *832-33 | 46 Paridhāra . . . | | ... |
| 3935 | 756 | 891 | 240 | 8-9 | 833-34 | 47 Pramāṇa . . . | | 3 Jyēṣṭha . |
| 3936 | 757 | 892 | 241 | 9-10 | 834-35 | 48 Ānanda . . . | | ... |
| 3937 | 758 | 893 | 242 | 10-11 | 835-36 | 49 Rākṣasa . . . | | 11 Māgha . |
| 3938 | 759 | 894 | 243 | 11-12 | *836-37 | 50 Anala . . . | | ... |
| 3939 | 760 | 895 | 244 | 12-13 | 837-38 | 51 Pāṇa . . . | | ... |
| 3940 | 761 | 896 | 245 | 13-14 | 838-39 | 52 Kālayukta . . . | | 8 Kārttika . |
| 3941 | 762 | 897 | 246 | 14-15 | 839-40 | 53 Siddhārtha . . . | | ... |
| 3942 | 763 | 898 | 247 | 15-16 | *840-41 | 54 Randra . . . | | ... |
| 3943 | 764 | 899 | 248 | 16-17 | 841-42 | 55 Durmati . . . | | 4 Āshāḍha . |
| 3944 | 765 | 900 | 249 | 17-18 | 842-43 | 56 Dandubhi . . . | | ... |
| 3945 | 766 | 901 | 250 | 18-19 | 843-44 | 57 Rudhīrāṅga . . . | | ... |

* By both mean and true systems 32 Vikrāṇ was expunged.

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|-------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here—f, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| 24 Mar. (83) . . . | 5 Thur. . . | H. M. S. 0 40 0 | 1 Mar. (60) . . . | 3 Tues. . . | 230-1400 | 3921 |
| 23 Mar. (83) . . . | 6 Fri. . . | 6 52 30 | 19 Mar. (79) . . . | 2 Mon. . . | 270-7856 | 3922 |
| 23 Mar. (82) . . . | 0 Sat. . . | 13 5 0 | 8 Mar. (67) . . . | 6 Fri. . . | 140-4690 | 3923 |
| 23 Mar. (82) . . . | 1 Sun. . . | 19 17 30 | 25 Feb. (56) . . . | 3 Tues. . . | 22-1524 | 3924 |
| 24 Mar. (83) . . . | 3 Tues. . . | 1 30 0 | 16 Mar. (75) . . . | 2 Mon. . . | 56-7920 | 3925 |
| 23 Mar. (83) . . . | 4 Wed. . . | 7 42 30 | 5 Mar. (65) . . . | 0 Sat. . . | 271-1073 | 3926 |
| 23 Mar. (82) . . . | 5 Thur. . . | 13 55 0 | 22 Feb. (53) . . . | 4 Wed. . . | 140-7906 | 3927 |
| 23 Mar. (82) . . . | 6 Fri. . . | 20 7 30 | 13 Mar. (72) . . . | 3 Tues. . . | 181-4303 | 3928 |
| 24 Mar. (83) . . . | 1 Sun. . . | 2 20 0 | 2 Mar. (61) . . . | 0 Sat. . . | 57-1137 | 3929 |
| 23 Mar. (83) . . . | 2 Mon. . . | 8 32 30 | 20 Mar. (80) . . . | 6 Fri. . . | 91-7533 | 3930 |
| 23 Mar. (82) . . . | 3 Tues. . . | 14 45 0 | 10 Mar. (69) . . . | 4 Wed. . . | 306-0686 | 3931 |
| 23 Mar. (82) . . . | 4 Wed. . . | 20 57 30 | 27 Feb. (58) . . . | 1 Sun. . . | 181-7519 | 3932 |
| 24 Mar. (83) . . . | 6 Fri. . . | 3 10 0 | 18 Mar. (77) . . . | 0 Sat. . . | 216-3016 | 3933 |
| 23 Mar. (83) . . . | 0 Sat. . . | 9 22 30 | 6 Mar. (66) . . . | 4 Wed. . . | 92-0749 | 3934 |
| 23 Mar. (82) . . . | 1 Sun. . . | 15 35 0 | 24 Feb. (55) . . . | 2 Mon. . . | 306-3902 | 3935 |
| 23 Mar. (82) . . . | 2 Mon. . . | 21 47 30 | 14 Mar. (73) . . . | 0 Sat. . . | 2-3979 | 3936 |
| 24 Mar. (83) . . . | 4 Wed. . . | 4 0 0 | 4 Mar. (63) . . . | 5 Thur. . . | 216-7132 | 3937 |
| 23 Mar. (83) . . . | 5 Thur. . . | 10 12 30 | 22 Mar. (82) . . . | 4 Wed. . . | 251-3528 | 3938 |
| 23 Mar. (82) . . . | 6 Fri. . . | 16 25 0 | 11 Mar. (70) . . . | 1 Sun. . . | 127-0362 | 3939 |
| 23 Mar. (82) . . . | 0 Sat. . . | 22 37 30 | 28 Feb. (59) . . . | 5 Thur. . . | 2-7176 | 3940 |
| 24 Mar. (83) . . . | 2 Mon. . . | 4 50 0 | 19 Mar. (78) . . . | 4 Wed. . . | 37-3592 | 3941 |
| 23 Mar. (83) . . . | 3 Tues. . . | 11 2 30 | 8 Mar. (68) . . . | 2 Mon. . . | 251-6745 | 3942 |
| 23 Mar. (82) . . . | 4 Wed. . . | 17 15 0 | 25 Feb. (56) . . . | 6 Fri. . . | 127-3579 | 3943 |
| 23 Mar. (82) . . . | 5 Thur. . . | 23 17 30 | 16 Mar. (75) . . . | 6 Thur. . . | 161-0076 | 3944 |
| 24 Mar. (83) . . . | 0 Sat. . . | 5 40 0 | 5 Mar. (64) . . . | 2 Mon. . . | 37-0809 | 3945 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Śaka. | Chaitradī Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3946 | 767 | 902 | 251 | 19-20 | *844-45 | 58 Raktāksha . . . | | 1 Chaitra . . |
| 3947 | 768 | 903 | 252 | 20-21 | 845-46 | 59 Krōdhana . . . | | ... |
| 3948 | 769 | 904 | 253 | 21-22 | 846-47 | 60 Kahaya . . . | | 9 Mārgaśīra . . |
| 3949 | 770 | 905 | 254 | 22-23 | 847-48 | 1 Prabhava . . . | | ... |
| 3950 | 771 | 906 | 255 | 23-24 | *848-49 | 2 Vilhava . . . | | ... |
| 3951 | 772 | 907 | 256 | 24-25 | 849-50 | 3 Śukla . . . | | 6 Bhādrapada. |
| 3952 | 773 | 908 | 257 | 25-26 | 850-51 | 4 Pramōda . . . | | ... |
| 3953 | 774 | 909 | 258 | 26-27 | 851-52 | 5 Prajāpati . . . | | ... |
| 3954 | 775 | 910 | 259 | 27-28 | *852-53 | 6 Atgiras . . . | | 2 Vātākha . . |
| 3955 | 776 | 911 | 260 | 28-29 | 853-54 | 7 Śrīmukha . . . | | ... |
| 3956 | 777 | 912 | 261 | 29-30 | 854-55 | 8 Bhāva . . . | | 11 Māgha . . |
| 3957 | 778 | 913 | 262 | 30-31 | 855-56 | 9 Yuvan . . . | | ... |
| 3958 | 779 | 914 | 263 | 31-32 | *856-57 | 10 Dhātri . . . | | ... |
| 3959 | 780 | 915 | 264 | 32-33 | 857-58 | 11 Lāvata . . . | | 7 Āśvina . . |
| 3960 | 781 | 916 | 265 | 33-34 | 858-59 | 12 Bahudhānya . . . | | ... |
| 3961 | 782 | 917 | 266 | 34-35 | 859-60 | 13 Pramādin . . . | | ... |
| 3962 | 783 | 918 | 267 | 35-36 | *860-61 | 14 Vikrama . . . | | 4 Āshāḍha . . |
| 3963 | 784 | 919 | 268 | 36-37 | 861-62 | 15 Vriśā . . . | | ... |
| 3964 | 785 | 920 | 269 | 37-38 | 862-63 | 16 Chitrabhānu . . . | | 12 Phālguna . . |
| 3965 | 786 | 921 | 270 | 38-39 | 863-64 | 17 Subhānu . . . | | ... |
| 3966 | 787 | 922 | 271 | 39-40 | *864-65 | 18 Tārana . . . | | ... |
| 3967 | 788 | 923 | 272 | 40-41 | 865-66 | 19 Pārthiva . . . | | 9 Mārgaśīra . . |
| 3968 | 789 | 924 | 273 | 41-42 | 866-67 | 20 Vyaya . . . | | ... |
| 3969 | 790 | 925 | 274 | 42-43 | 867-68 | 21 Sarvajit . . . | | ... |
| 3970 | 791 | 925 | 275 | 43-44 | *868-69 | 22 Sarvadhārin . . . | | 6 Bhādrapada.† |

† By the "Indian Calendar" 5 Śākras was intercalated.

LXXVI—Contd.

I Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR, | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-saṁkrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 23 Mar. (83) . . | 1 Sun. . | 11 52 30 | 23 Feb. (54) . . | 0 Sat. . | 251-9960 | 3946 |
| 23 Mar. (82) . . | 2 Mon. . | 18 5 0 | 13 Mar. (72) . . | 6 Fri. . | 286-6357 | 3947 |
| 24 Mar. (83) . . | 4 Wed. . | 0 17 30 | 2 Mar. (61) . . | 3 Tues. . | 162-3191 | 3948 |
| 24 Mar. (83) . . | 5 Thur. . | 6 30 0 | 21 Mar. (80) . . | 2 Mon. . | 106-9588 | 3949 |
| 23 Mar. (83) . . | 6 Fri. . | 12 42 30 | 9 Mar. (69) . . | 6 Fri. . | 72-6421 | 3950 |
| 23 Mar. (82) . . | 0 Sat. . | 18 55 0 | 27 Feb. (58) . . | 4 Wed. . | 286-9573 | 3951 |
| 24 Mar. (83) . . | 2 Mon. . | 1 7 30 | 18 Mar. (77) . . | 3 Tues. . | 321-5970 | 3952 |
| 24 Mar. (83) . . | 3 Tues. . | 7 20 0 | 7 Mar. (66) . . | 0 Sat. . | 197-2803 | 3953 |
| 23 Mar. (83) . . | 4 Wed. . | 13 32 30 | 24 Feb. (55) . . | 4 Wed. . | 72-9637 | 3954 |
| 23 Mar. (82) . . | 5 Thur. . | 19 45 0 | 14 Mar. (73) . . | 3 Tues. . | 107-6033 | 3955 |
| 24 Mar. (83) . . | 0 Sat. . | 1 57 30 | 4 Mar. (63) . . | 1 Sun. . | 321-9186 | 3956 |
| 24 Mar. (83) . . | 1 Sun. . | 8 10 0 | 22 Mar. (81) . . | 6 Fri. . | 17-9263 | 3957 |
| 23 Mar. (83) . . | 2 Mon. . | 14 22 30 | 11 Mar. (71) . . | 4 Wed. . | 232-2416 | 3958 |
| 23 Mar. (82) . . | 3 Tues. . | 20 25 0 | 28 Feb. (59) . . | 1 Sun. . | 107-9250 | 3959 |
| 24 Mar. (83) . . | 5 Thur. . | 2 47 30 | 19 Mar. (78) . . | 0 Sat. . | 142-5646 | 3960 |
| 24 Mar. (83) . . | 6 Fri. . | 9 0 0 | 8 Mar. (67) . . | 4 Wed. . | 18-2480 | 3961 |
| 23 Mar. (83) . . | 0 Sat. . | 15 12 30 | 26 Feb. (57) . . | 2 Mon. . | 232-5633 | 3962 |
| 23 Mar. (82) . . | 1 Sun. . | 21 25 0 | 16 Mar. (75) . . | 1 Sun. . | 267-2029 | 3963 |
| 24 Mar. (83) . . | 3 Tues. . | 3 37 30 | 5 Mar. (64) . . | 5 Thur. . | 142-8863 | 3964 |
| 24 Mar. (83) . . | 4 Wed. . | 9 50 0 | 24 Mar. (83) . . | 4 Wed. . | 177-5259 | 3965 |
| 23 Mar. (83) . . | 5 Thur. . | 16 2 30 | 12 Mar. (72) . . | 1 Sun. . | 53-2093 | 3966 |
| 23 Mar. (82) . . | 6 Fri. . | 22 15 0 | 2 Mar. (61) . . | 6 Fri. . | 267-5245 | 3967 |
| 24 Mar. (83) . . | 1 Sun. . | 4 27 30 | 21 Mar. (80) . . | 5 Thur. . | 302-1642 | 3968 |
| 24 Mar. (83) . . | 2 Mon. . | 10 40 0 | 10 Mar. (69) . . | 2 Mon. . | 177-8475 | 3969 |
| 23 Mar. (83) . . | 3 Tues. . | 16 52 30 | 27 Feb. (58) . . | 6 Fri. . | 53-6305 | 3970 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikrama. | Māghādī solar year in Bengal. | Kollam. | A.D. | Jovian SAMVATSAKA. | | Mean Interolated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 4a | 4 | 5 | 6 | 7 | 8a |
| 3971 | 792 | 927 | 276 | 44-45 | 869.70 | 23 Virōdhin | . | ... |
| 3972 | 793 | 928 | 277 | 45-46 | 870.71 | 24 Vikṛita | . | ... |
| 3973 | 794 | 929 | 278 | 46-47 | 871.72 | 25 Khara | . | 2 Vaiśākha |
| 3974 | 795 | 930 | 279 | 47-48 | *872.73 | 26 Nandana | . | ... |
| 3975 | 796 | 931 | 280 | 48-49 | 873.74 | 27 Vijaya | . | 11 Māgha |
| 3976 | 797 | 932 | 281 | 49-50 | 874.75 | 28 Jaya | . | ... |
| 3977 | 798 | 933 | 282 | 50-51 | 875.76 | 29 Maumatha | . | ... |
| 3978 | 799 | 934 | 283 | 51-52 | *876.77 | 30 Durmukha | . | 7 Āyina |
| 3979 | 800 | 935 | 284 | 52-53 | 877.78 | 31 Hēmalamba | . | ... |
| 3980 | 801 | 936 | 285 | 53-54 | 878.79 | 32 Vilamba | . | ... |
| 3981 | 802 | 937 | 286 | 54-55 | 879.80 | 33 Vikārin | . | 4 Āshādha |
| 3982 | 803 | 938 | 287 | 55-56 | *880.81 | 34 Śārvarin | . | ... |
| 3983 | 804 | 939 | 288 | 56-57 | 881.82 | 35 Playa | . | 12 Phālguna |
| 3984 | 805 | 940 | 289 | 57-58 | 882.83 | 36 Śubhakṛit | . | ... |
| 3985 | 806 | 941 | 290 | 58-59 | 883.84 | 37 Śōbhana | . | ... |
| 3986 | 807 | 942 | 291 | 59-60 | *884.85 | 38 Krōdhin | . | 9 Mārgaśīra |
| 3987 | 808 | 943 | 292 | 60-61 | 885.86 | 39 Vikāvāsa | . | ... |
| 3988 | 809 | 944 | 293 | 61-62 | 886.87 | 40 Parābhava | . | ... |
| 3989 | 810 | 945 | 294 | 62-63 | 887.88 | 41 Plavaṅga | . | 5 Śrāvapa |
| 3990 | 811 | 946 | 295 | 63-64 | *888.89 | 42 Kilaka | . | ... |
| 3991 | 812 | 947 | 296 | 64-65 | 889.90 | 43 Samya | . | ... |
| 3992 | 813 | 948 | 297 | 65-66 | 890.91 | 44 Śādhārāya | . | 2 Vaiśākha |
| 3993 | 814 | 949 | 298 | 66-67 | 891.92 | 45 Virōdhakṛit | . | ... |
| 3994 | 815 | 950 | 299 | 67-68 | *892.93 | 46 Pandhava | . | 10 Pausa |
| 3995 | 816 | 951 | 300 | 68-69 | 893.94 | 47 Pramādin | . | ... |

LXXVI—Contd.

I Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | <i>n</i> (here= <i>i</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 23 Mar. (82) . . . | 4 Wed. . | 23 5 0 | 17 Mar. (76) . . . | 5 Thur. . | 88-1705 | 3971 |
| 24 Mar. (83) . . . | 6 Fri. . | 5 17 30 | 7 Mar. (86) . . . | 3 Tues. . | 302-4858 | 3972 |
| 24 Mar. (83) . . . | 0 Sat. . | 11 30 0 | 24 Feb. (55) . . . | 0 Sat. . | 178-1602 | 3973 |
| 23 Mar. (83) . . . | 1 Sun. . | 17 42 30 | 14 Mar. (74) . . . | 6 Fri. . | 212-8088 | 3974 |
| 23 Mar. (82) . . . | 2 Mon. . | 23 55 0 | 3 Mar. (62) . . . | 3 Tues. . | 88-4922 | 3975 |
| 24 Mar. (83) . . . | 4 Wed. . | 6 7 30 | 22 Mar. (81) . . . | 2 Mon. . | 123-1318 | 3976 |
| 24 Mar. (83) . . . | 5 Thur. . | 12 20 0 | 11 Mar. (70) . . . | 6 Fri. . | 9998-8151† | 3977 |
| 23 Mar. (83) . . . | 6 Fri. . | 18 32 30 | 29 Feb. (60) . . . | 4 Wed. . | 213-1304 | 3978 |
| 24 Mar. (83) . . . | 1 Sun. . | 0 45 0 | 19 Mar. (78) . . . | 3 Tues. . | 247-7700 | 3979 |
| 24 Mar. (83) . . . | 2 Mon. . | 6 57 30 | 8 Mar. (67) . . . | 0 Sat. . | 123-4535 | 3980 |
| 24 Mar. (83) . . . | 3 Tues. . | 13 10 0 | 25 Feb. (56) . . . | 4 Wed. . | 9999-1308† | 3981 |
| 23 Mar. (83) . . . | 4 Wed. . | 10 22 30 | 15 Mar. (75) . . . | 3 Tues. . | 33-7764 | 3982 |
| 24 Mar. (83) . . . | 6 Fri. . | 1 35 0 | 5 Mar. (64) . . . | 1 Sun. . | 248-6917 | 3983 |
| 24 Mar. (83) . . . | 0 Sat. . | 7 47 30 | 24 Mar. (83) . . . | 0 Sat. . | 282-7313 | 3984 |
| 24 Mar. (83) . . . | 1 Sun. . | 14 0 0 | 13 Mar. (72) . . . | 4 Wed. . | 158-4147 | 3985 |
| 23 Mar. (83) . . . | 2 Mon. . | 20 12 30 | 1 Mar. (61) . . . | 1 Sun. . | 34-0980 | 3986 |
| 24 Mar. (83) . . . | 4 Wed. . | 2 25 0 | 20 Mar. (79) . . . | 0 Sat. . | 68-7377 | 3987 |
| 24 Mar. (83) . . . | 5 Thur. . | 8 37 30 | 10 Mar. (69) . . . | 5 Thur. . | 283-0530 | 3988 |
| 24 Mar. (83) . . . | 6 Fri. . | 14 50 0 | 27 Feb. (58) . . . | 2 Mon. . | 188-7364 | 3989 |
| 23 Mar. (83) . . . | 0 Sat. . | 21 2 30 | 17 Mar. (77) . . . | 1 Sun. . | 193-3760 | 3990 |
| 24 Mar. (83) . . . | 2 Mon. . | 3 15 0 | 6 Mar. (65) . . . | 5 Thur. . | 69-0504 | 3991 |
| 24 Mar. (83) . . . | 3 Tues. . | 9 27 30 | 24 Feb. (55) . . . | 3 Tues. . | 283-3746 | 3992 |
| 24 Mar. (83) . . . | 4 Wed. . | 15 40 0 | 15 Mar. (74) . . . | 2 Mon. . | 318-6143 | 3993 |
| 23 Mar. (83) . . . | 5 Thur. . | 21 52 30 | 3 Mar. (63) . . . | 6 Fri. . | 193-6976 | 3994 |
| 24 Mar. (83) . . . | 0 Sat. . | 4 5 0 | 22 Mar. (81) . . . | 5 Thur. . | 228-3372 | 3995 |

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēbhādī solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3996 | 817 | 952 | 301 | 69-70 | 894-95 | 48 Ananda . . . | | ... |
| 3997 | 818 | 953 | 302 | 70-71 | 895-96 | 49 Rākshasa . . . | | 7 Āsvina . |
| 3998 | 819 | 954 | 303 | 71-72 | *896-97 | 50 Anala . . . | | ... |
| 3999 | 820 | 955 | 304 | 72-73 | 897-98 | 51 Piṅgala . . . | | ... |
| 4000 | 821 | 956 | 305 | 73-74 | 898-99 | 52 Kālayukta . . . | | 3 Jyēṣṭha . |
| 4001 | 822 | 957 | 306 | 74-75 | 899-900 | 53 Siddhārthin . . . | | ... |
| 4002 | 823 | 958 | 307 | 75-76 | *900-01 | 54 Raudra . . . | | 12 Phālguna . |
| 4003 | 824 | 959 | 308 | 76-77 | 901-02 | 55 Durmati . . . | | ... |
| 4004 | 825 | 960 | 309 | 77-78 | 902-03 | 56 Dundubhi . . . | | ... |
| 4005 | 826 | 961 | 310 | 78-79 | 903-04 | 57 Rudhirōdgārin . . . | | 9 Mārgaśīra . |
| 4006 | 827 | 962 | 311 | 79-80 | *904-05 | 58 Raktāksha† . . . | | ... |
| 4007 | 828 | 963 | 312 | 80-81 | 905-06 | 59 Krōdhana . . . | 60 Kshaya . . . | ... |
| 4008 | 829 | 964 | 313 | 81-82 | 906-07 | 60 Kshaya‡ . . . | 1 Prabhava . . . | 5 Śrāvaṇa . |
| 4009 | 830 | 965 | 314 | 82-83 | 907-08 | 1 Prabhava . . . | 2 Vibhava . . . | ... |
| 4010 | 831 | 966 | 315 | 83-84 | *908-09 | 2 Vibhava . . . | 3 Śukla . . . | ... |
| 4011 | 832 | 967 | 316 | 84-85 | 909-10 | 3 Sukla . . . | 4 Pramōda . . . | 2 Vaiśākha . |
| 4012 | 833 | 968 | 317 | 85-86 | 910-11 | 4 Pramōda . . . | 5 Prajāpati . . . | ... |
| 4013 | 834 | 969 | 318 | 86-87 | 911-12 | 5 Prajāpati . . . | 6 Aṅgīras . . . | 10 Pausa . |
| 4014 | 835 | 970 | 319 | 87-88 | *912-13 | 6 Aṅgīras . . . | 7 Śrīmukha . . . | ... |
| 4015 | 836 | 971 | 320 | 88-89 | 913-14 | 7 Śrīmukha . . . | 8 Bhāva . . . | ... |
| 4016 | 837 | 972 | 321 | 89-90 | 914-15 | 8 Bhāva . . . | 9 Yuvan . . . | 7 Āsvina . |
| 4017 | 838 | 973 | 322 | 90-91 | 915-16 | 9 Yuvan . . . | 10 Dhātṛi . . . | ... |
| 4018 | 839 | 974 | 323 | 91-92 | *916-17 | 10 Dhātṛi . . . | 11 Īvara . . . | .. |
| 4019 | 840 | 975 | 324 | 92-93 | 917-18 | 11 Īvara . . . | 12 Bahudhānya . . . | 3 Jyēṣṭha . |
| 4020 | 841 | 976 | 325 | 93-94 | 918-19 | 12 Bahudhānya . . . | 13 Pramāda . . . | ... |

† By the mean system 59 Krōdhana was expunged; by the true system 60 Kshaya was the expunged samvatsara and the year A.D. 905-6 was called "Krodhana."

‡ By southern reckoning there was no suppression after this year.

§ By the "Indian Calendar" 8 Kārtika was intercalated.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēśa-saṁkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | Kali year. |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 24 Mar. (83) . . . | 1 Sun. . . | 10 17 30 | 11 Mar. (70) . . . | 2 Mon. . . | 104-0206 | 3996 |
| 24 Mar. (83) . . . | 2 Mon. . . | 16 30 0 | 1 Mar. (66) . . . | 0 Sat. . . | 318-3359 | 3997 |
| 23 Mar. (83) . . . | 3 Tues. . . | 22 42 30 | 18 Mar. (78) . . . | 5 Thur. . . | 14-3436 | 3998 |
| 24 Mar. (83) . . . | 5 Thur. . . | 4 55 0 | 8 Mar. (67) . . . | 3 Tues. . . | 228-6589 | 3999 |
| 24 Mar. (83) . . . | 6 Fri. . . | 11 7 30 | 25 Feb. (56) . . . | 0 Sat. . . | 104-3423 | 4000 |
| 24 Mar. (83) . . . | 0 Sat. . . | 17 20 0 | 16 Mar. (75) . . . | 6 Fri. . . | 138-9819 | 4001 |
| 23 Mar. (83) . . . | 1 Sun. . . | 23 32 30 | 4 Mar. (64) . . . | 3 Tues. . . | 14-6653 | 4002 |
| 24 Mar. (83) . . . | 3 Tues. . . | 5 45 0 | 23 Mar. (82) . . . | 2 Mon. . . | 49-3049 | 4003 |
| 24 Mar. (83) . . . | 4 Wed. . . | 11 57 30 | 13 Mar. (72) . . . | 0 Sat. . . | 263-6202 | 4004 |
| 24 Mar. (83) . . . | 5 Thur. . . | 18 10 0 | 2 Mar. (61) . . . | 4 Wed. . . | 139-3034 | 4005 |
| 24 Mar. (84) . . . | 0 Sat. . . | 0 22 30 | 20 Mar. (80) . . . | 3 Tues. . . | 173-9431 | 4006 |
| 24 Mar. (83) . . . | 1 Sun. . . | 6 35 0 | 9 Mar. (68) . . . | 0 Sat. . . | 49-6264 | 4007 |
| 24 Mar. (83) . . . | 2 Mon. . . | 12 47 30 | 27 Feb. (58) . . . | 5 Thur. . . | 263-9418 | 4008 |
| 24 Mar. (83) . . . | 3 Tues. . . | 19 0 0 | 18 Mar. (77) . . . | 4 Wed. . . | 298-5814 | 4009 |
| 24 Mar. (84) . . . | 5 Thur. . . | 1 12 30 | 6 Mar. (66) . . . | 1 Sun. . . | 174-2047 | 4010 |
| 24 Mar. (83) . . . | 6 Fri. . . | 7 25 0 | 23 Feb. (54) . . . | 5 Thur. . . | 49-9481 | 4011 |
| 24 Mar. (83) . . . | 0 Sat. . . | 13 37 30 | 14 Mar. (73) . . . | 4 Wed. . . | 84-5878 | 4012 |
| 24 Mar. (83) . . . | 1 Sun. . . | 19 50 0 | 4 Mar. (63) . . . | 2 Mon. . . | 298-9030 | 4013 |
| 24 Mar. (84) . . . | 3 Tues. . . | 2 2 30 | 21 Mar. (81) . . . | 0 Sat. . . | 9994-9109† | 4014 |
| 24 Mar. (83) . . . | 4 Wed. . . | 8 15 0 | 11 Mar. (70) . . . | 5 Thur. . . | 209-2259 | 4015 |
| 24 Mar. (83) . . . | 5 Thur. . . | 14 27 30 | 28 Feb. (59) . . . | 2 Mon. . . | 84-9093 | 4016 |
| 24 Mar. (83) . . . | 6 Fri. . . | 20 40 0 | 19 Mar. (78) . . . | 1 Sun. . . | 119-5490 | 4017 |
| 24 Mar. (84) . . . | 1 Sun. . . | 2 52 30 | 7 Mar. (67) . . . | 5 Thur. . . | 9995-2324† | 4018 |
| 24 Mar. (83) . . . | 2 Mon. . . | 9 5 0 | 25 Feb. (56) . . . | 3 Tues. . . | 209-5476 | 4019 |
| 24 Mar. (83) . . . | 3 Tues. . . | 15 17 30 | 16 Mar. (75) . . . | 2 Mon. . . | 244-1872 | 4020 |

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chartradi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4021 | 842 | 977 | 326 | 94-95 | 919-20 | 13 Pramādin | 14 Vikrama | 12 Phālguna |
| 4022 | 843 | 978 | 327 | 95-96 | *920-21 | 14 Vikrama | 15 Vyīsha | ... |
| 4023 | 844 | 979 | 328 | 96-97 | 921-22 | 15 Vyīsha | 16 Chitrabhānu | ... |
| 4024 | 845 | 980 | 329 | 97-98 | 922-23 | 16 Chitrabhānu | 17 Subhānu | 8 Kārttika |
| 4025 | 846 | 981 | 330 | 98-99 | 923-24 | 17 Subhānu | 18 Tārāṇa | ... |
| 4026 | 847 | 982 | 331 | 99-00 | *924-25 | 18 Tārāṇa | 19 Pārthiva | ... |
| 4027 | 848 | 983 | 332 | 100-01 | 925-26 | 19 Pārthiva | 20 Vyaya | 5 Śrāvāṇa |
| 4028 | 849 | 984 | 333 | 101-02 | 926-27 | 20 Vyaya | 21 Sarvajit | ... |
| 4029 | 850 | 985 | 334 | 102-03 | 927-28 | 21 Sarvajit | 22 Sarvadhārin | ... |
| 4030 | 851 | 986 | 335 | 103-04 | *928-29 | 22 Sarvadhārin | 23 Virōdhin | 1 Chaitra |
| 4031 | 852 | 987 | 336 | 104-05 | 929-30 | 23 Virōdhin | 24 Vikṛita | ... |
| 4032 | 853 | 988 | 337 | 105-06 | 930-31 | 24 Vikṛita | 25 Khara | 10 Pausa |
| 4033 | 854 | 989 | 338 | 106-07 | 931-32 | 25 Khara | 26 Nandana | ... |
| 4034 | 855 | 990 | 339 | 107-08 | *932-33 | 26 Nandana | 27 Vijaya | ... |
| 4035 | 856 | 991 | 340 | 108-09 | 933-34 | 27 Vijaya | 28 Jaya | 6 Bhādrapada |
| 4036 | 857 | 992 | 341 | 109-10 | 934-35 | 28 Jaya | 29 Manmatha | ... |
| 4037 | 858 | 993 | 342 | 110-11 | 935-36 | 29 Manmatha | 30 Dermukha | ... |
| 4038 | 859 | 994 | 343 | 111-12 | *936-37 | 30 Dermukha | 31 Hēmalamba | 3 Jyēṣṭha |
| 4039 | 860 | 995 | 344 | 112-13 | 937-38 | 31 Hēmalamba | 32 Vilamba | ... |
| 4040 | 861 | 996 | 345 | 113-14 | 938-39 | 32 Vilamba | 33 Vikārin | 11 Māgha |
| 4041 | 862 | 997 | 346 | 114-15 | 939-40 | 33 Vikārin | 34 Śārvarin | ... |
| 4042 | 863 | 998 | 347 | 115-16 | *940-41 | 34 Śārvarin | 35 Plava | ... |
| 4043 | 864 | 999 | 348 | 116-17 | 941-42 | 35 Plava | 36 Śubhakṛit | 8 Kārttika |
| 4044 | 865 | 1000 | 349 | 117-18 | 942-43 | 36 Śubhakṛit | 37 Śōbhana | ... |
| 4045 | 866 | 1001 | 350 | 118-19 | 943-44 | 37 Śōbhana | 38 Krōdhin | ... |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | s (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 24 Mar. (83) . . | 4 Wed. . | 21 30 0 | 5 Mar. (64) . . | 6 Fri. . | 119-8706 | 4021 |
| 24 Mar. (84) . . | 6 Fri. . | 3 42 30 | 23 Mar. (83) . . | 5 Thur. . | 154-5102 | 4022 |
| 24 Mar. (83) . . | 0 Sat. . | 9 55 0 | 12 Mar. (71) . . | 2 Mon. . | 30-1936 | 4023 |
| 24 Mar. (83) . . | 1 Sun. . | 16 7 30 | 2 Mar. (61) . . | 0 Sat. . | 244-5089 | 4024 |
| 24 Mar. (83) . . | 2 Mon. . | 22 20 0 | 21 Mar. (80) . . | 6 Fri. . | 279-1485 | 4025 |
| 24 Mar. (84) . . | 4 Wed. . | 4 32 30 | 9 Mar. (69) . . | 3 Tues. . | 154-8319 | 4026 |
| 24 Mar. (83) . . | 5 Thur. . | 10 45 0 | 28 Feb. (57) . . | 0 Sat. . | 30-5153 | 4027 |
| 24 Mar. (83) . . | 6 Fri. . | 16 57 30 | 17 Mar. (76) . . | 6 Fri. . | 65-1549 | 4028 |
| 24 Mar. (83) . . | 0 Sat. . | 23 10 0 | 7 Mar. (66) . . | 4 Wed. . | 279-4701 | 4029 |
| 24 Mar. (84) . . | 2 Mon. . | 5 22 30 | 24 Feb. (55) . . | 1 Sun. . | 155-1535 | 4030 |
| 24 Mar. (83) . . | 3 Tues. . | 11 35 0 | 14 Mar. (73) . . | 0 Sat. . | 189-7932 | 4031 |
| 24 Mar. (83) . . | 4 Wed. . | 17 47 30 | 3 Mar. (62) . . | 4 Wed. . | 65-4765 | 4032 |
| 25 Mar. (84) . . | 6 Fri. . | 0 0 0 | 22 Mar. (81) . . | 3 Tues. . | 100-1162 | 4033 |
| 24 Mar. (84) . . | 0 Sat. . | 6 12 30 | 11 Mar. (71) . . | 1 Sun. . | 314-4314 | 4034 |
| 24 Mar. (83) . . | 1 Sun. . | 12 25 0 | 28 Feb. (59) . . | 5 Thur. . | 190-1148 | 4035 |
| 24 Mar. (83) . . | 2 Mon. . | 18 37 30 | 19 Mar. (78) . . | 4 Wed. . | 224-7544 | 4036 |
| 25 Mar. (84) . . | 4 Wed. . | 0 50 0 | 8 Mar. (67) . . | 1 Sun. . | 100-4378 | 4037 |
| 24 Mar. (84) . . | 5 Thur. . | 7 2 30 | 26 Feb. (57) . . | 6 Fri. . | 314-7531 | 4038 |
| 24 Mar. (83) . . | 6 Fri. . | 13 15 0 | 15 Mar. (74) . . | 4 Wed. . | 16-7698 | 4039 |
| 24 Mar. (83) . . | 0 Sat. . | 19 27 30 | 5 Mar. (64) . . | 2 Mon. . | 225-0661 | 4040 |
| 25 Mar. (84) . . | 2 Mon. . | 1 40 0 | 24 Mar. (83) . . | 1 Sun. . | 259-7156 | 4041 |
| 24 Mar. (84) . . | 3 Tues. . | 7 52 30 | 12 Mar. (72) . . | 5 Thur. . | 135-3991 | 4042 |
| 24 Mar. (83) . . | 4 Wed. . | 14 5 0 | 1 Mar. (60) . . | 2 Mon. . | 11-0825 | 4043 |
| 24 Mar. (83) . . | 5 Thur. . | 20 17 30 | 23 Mar. (79) . . | 1 Sun. . | 45-7222 | 4044 |
| 25 Mar. (84) . . | 0 Sat. . | 2 30 0 | 19 Mar. (69) . . | 3 Fri. . | 280-0474 | 4045 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaltradi Vikrama. | Mēshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4046 | 867 | 1002 | 351 | 119-20 | *944-45 | 38 Krōdhin . | 39 Viśvāvasu . | 5 Śrāvapaṭ . |
| 4047 | 868 | 1003 | 352 | 120-21 | 945-46 | 39 Viśvāvasu . | 40 Parābhava . | ... |
| 4048 | 869 | 1004 | 353 | 121-22 | 946-47 | 40 Parābhava . | 41 Plavaṅga . | ... |
| 4049 | 870 | 1005 | 354 | 122-23 | 947-48 | 41 Plavaṅga . | 42 Kilaka . | 1 Chaitra . |
| 4050 | 871 | 1006 | 355 | 123-24 | *948-49 | 42 Kilaka . | 43 Saumya . | ... |
| 4051 | 872 | 1007 | 356 | 124-25 | 949-50 | 43 Saumya . | 44 Sādhārana . | 10 Pausa . |
| 4052 | 873 | 1008 | 357 | 125-26 | 950-51 | 44 Sādhārana . | 45 Virōdhakṛt . | ... |
| 4053 | 874 | 1009 | 358 | 126-27 | 951-52 | 45 Virōdhakṛt . | 46 Paridhāvin . | ... |
| 4054 | 875 | 1010 | 359 | 127-28 | *952-53 | 46 Paridhāvin . | 47 Pramādin . | 6 Bhādrapada . |
| 4055 | 876 | 1011 | 360 | 128-29 | 953-54 | 47 Pramādin . | 48 Ānanda . | ... |
| 4056 | 877 | 1012 | 361 | 129-30 | 954-55 | 48 Ānanda . | 49 Rākshasa . | ... |
| 4057 | 878 | 1013 | 362 | 130-31 | 955-56 | 49 Rākshasa . | 50 Anala . | 3 Jyēṣṭha . |
| 4058 | 879 | 1014 | 363 | 131-32 | *956-57 | 50 Anala . | 51 Piṅgala . | ... |
| 4059 | 880 | 1015 | 364 | 132-33 | 957-58 | 51 Piṅgala . | 52 Kālayukta . | 11 Māgha . |
| 4060 | 881 | 1016 | 365 | 133-34 | 958-59 | 52 Kālayukta . | 53 Siddhārthin . | ... |
| 4061 | 882 | 1017 | 366 | 134-35 | 959-60 | 53 Siddhārthin . | 54 Raudra . | ... |
| 4062 | 883 | 1018 | 367 | 135-36 | *960-61 | 54 Raudra . | 55 Darmati . | 8 Kārttika . |
| 4063 | 884 | 1019 | 368 | 136-37 | 961-62 | 55 Darmati . | 56 Dandubhi . | ... |
| 4064 | 885 | 1020 | 369 | 137-38 | 962-63 | 56 Dandubhi . | 57 Rudhīrōdgārin . | ... |
| 4065 | 886 | 1021 | 370 | 138-39 | 963-64 | 57 Rudhīrōdgārin . | 58 Raktāksha . | 4 Āshāḍha . |
| 4066 | 887 | 1022 | 371 | 139-40 | *964-65 | 58 Raktāksha . | 59 Krōdhana . | ... |
| 4067 | 888 | 1023 | 372 | 140-41 | 965-66 | 59 Krōdhana . | 60 Kshaya . | ... |
| 4068 | 889 | 1024 | 373 | 141-42 | 966-67 | 60 Kshaya . | 1 Prabhava . | 1 Chaitra . |
| 4069 | 890 | 1025 | 374 | 142-43 | 967-68 | 1 Prabhava . | 2 Vibhava . | ... |
| 4070 | 891 | 1026 | 375 | 143-44 | *968-69 | 2 Vibhava . | 3 Śukla . | 9 Mārgaśīra . |

† By the "Indian Calendar" the intercalated month was 4 Āshāḍha.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 24 Mar. (84) . . | 1 Sun. . | 8 42 30 | 27 Feb. (58) . . | 3 Tues. . | 135-7207 | 4046 |
| 24 Mar. (83) . . | 2 Mon. . | 14 55 0 | 17 Mar. (76) . . | 2 Mon. . | 170-3603 | 4047 |
| 24 Mar. (83) . . | 3 Tues. . | 21 7 30 | 6 Mar. (65) . . | 6 Fri. . | 46-0436 | 4048 |
| 25 Mar. (84) . . | 5 Thur. . | 3 20 0 | 24 Feb. (55) . . | 4 Wed. . | 260-3590 | 4049 |
| 24 Mar. (84) . . | 6 Fri. . | 9 32 30 | 14 Mar. (74) . . | 3 Tues. . | 294-9086 | 4050 |
| 24 Mar. (83) . . | 0 Sat. . | 15 45 0 | 3 Mar. (62) . . | 0 Sat. . | 170-6819 | 4051 |
| 24 Mar. (83) . . | 1 Sun. . | 21 57 30 | 22 Mar. (81) . . | 6 Fri. . | 205-3216 | 4052 |
| 25 Mar. (84) . . | 3 Tues. . | 4 10 0 | 11 Mar. (70) . . | 3 Tues. . | 81-0049 | 4053 |
| 24 Mar. (84) . . | 4 Wed. . | 10 22 30 | 29 Feb. (60) . . | 1 Sun. . | 295-3203 | 4054 |
| 24 Mar. (83) . . | 5 Thur. . | 16 35 0 | 19 Mar. (78) . . | 0 Sat. . | 329-9599 | 4055 |
| 24 Mar. (83) . . | 6 Fri. . | 22 47 30 | 8 Mar. (67) . . | 4 Wed. . | 205-6432 | 4056 |
| 25 Mar. (84) . . | 1 Sun. . | 5 0 0 | 25 Feb. (56) . . | 1 Sun. . | 81-3266 | 4057 |
| 24 Mar. (84) . . | 2 Mon. . | 11 12 30 | 15 Mar. (75) . . | 0 Sat. . | 115-0662 | 4058 |
| 24 Mar. (83) . . | 3 Tues. . | 17 25 0 | 5 Mar. (64) . . | 5 Thur. . | 330-2815 | 4059 |
| 24 Mar. (83) . . | 4 Wed. . | 23 37 30 | 23 Mar. (82) . . | 3 Tues. . | 26-2802 | 4060 |
| 25 Mar. (84) . . | 6 Fri. . | 5 50 0 | 13 Mar. (72) . . | 1 Sun. . | 240-6045 | 4061 |
| 24 Mar. (84) . . | 0 Sat. . | 12 2 30 | 1 Mar. (61) . . | 5 Thur. . | 116-2879 | 4062 |
| 24 Mar. (83) . . | 1 Sun. . | 18 15 0 | 20 Mar. (79) . . | 4 Wed. . | 150-9275 | 4063 |
| 25 Mar. (84) . . | 3 Tues. . | 0 27 30 | 9 Mar. (68) . . | 1 Sun. . | 26-6109 | 4064 |
| 25 Mar. (84) . . | 4 Wed. . | 6 40 0 | 27 Feb. (58) . . | 6 Fri. . | 240-9262 | 4065 |
| 24 Mar. (84) . . | 5 Thur. . | 12 52 30 | 17 Mar. (77) . . | 5 Thur. . | 275-5658 | 4066 |
| 24 Mar. (83) . . | 6 Fri. . | 19 5 0 | 6 Mar. (65) . . | 2 Mon. . | 151-2451 | 4067 |
| 25 Mar. (84) . . | 1 Sun. . | 1 17 30 | 23 Feb. (54) . . | 6 Fri. . | 26-9325 | 4068 |
| 25 Mar. (84) . . | 2 Mon. . | 7 30 0 | 14 Mar. (73) . . | 5 Thur. . | 61-6721 | 4069 |
| 24 Mar. (84) . . | 3 Tues. . | 13 42 30 | 3 Mar. (63) . . | 3 Tues. . | 275-8874 | 4070 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4071 | 892 | 1027 | 376 | 144-45 | 969-70 | 3 Śukla . . . | 4 Pramōda . | |
| 4072 | 893 | 1028 | 377 | 145-46 | 970-71 | 4 Pramōda . . | 5 Prajāpati . | ... |
| 4073 | 894 | 1029 | 378 | 146-47 | 971-72 | 5 Prajāpati . . | 6 Aṅgīras . . | 6 Bhādrapada |
| 4074 | 895 | 1030 | 379 | 147-48 | *972-73 | 6 Aṅgīras . . | 7 Śrīmukha . | ... |
| 4075 | 896 | 1031 | 380 | 148-49 | 973-74 | 7 Śrīmukha . . | 8 Bhāva . . | ... |
| 4076 | 897 | 1032 | 381 | 149-50 | 974-75 | 8 Bhāva . . | 9 Yuvan . . | 2 Vaiśākha . |
| 4077 | 898 | 1033 | 382 | 150-51 | 975-76 | 9 Yuvan . . | 10 Dhātṛi . . | ... |
| 4078 | 899 | 1034 | 383 | 151-52 | *976-77 | 10 Dhātṛi . . | 11 Jāvara . . | 11 Māgha . |
| 4079 | 900 | 1035 | 384 | 152-53 | 977-78 | 11 Jāvara . . | 12 Bahudhānya . | ... |
| 4080 | 901 | 1036 | 385 | 153-54 | 978-79 | 12 Bahudhānya . | 13 Pramādin . | ... |
| 4081 | 902 | 1037 | 386 | 154-55 | 979-80 | 13 Pramādin . . | 14 Vikrama . . | 8 Kārttika †. |
| 4082 | 903 | 1038 | 387 | 155-56 | *980-81 | 14 Vikrama . . | 15 Vṛisha . . | ... |
| 4083 | 904 | 1039 | 388 | 156-57 | 981-82 | 15 Vṛisha . . | 16 Chitrabhānu . | ... |
| 4084 | 905 | 1040 | 389 | 157-58 | 982-83 | 16 Chitrabhānu . | 17 Subhānu . . | 4 Āshāḍha . |
| 4085 | 906 | 1041 | 390 | 158-59 | 983-84 | 17 Subhānu . . | 18 Tāraka . . | ... |
| 4086 | 907 | 1042 | 391 | 159-60 | *984-85 | 18 Tāraka . . | 19 Pārthiva . . | ... |
| 4087 | 908 | 1043 | 392 | 160-61 | 985-86 | 19 Pārthiva . . | 20 Vyaya . . | 1 Chaitra . |
| 4088 | 909 | 1044 | 393 | 161-62 | 986-87 | 20 Vyaya . . | 21 Sarvajit . . | ... |
| 4089 | 910 | 1045 | 394 | 162-63 | 987-88 | 21 Sarvajit . . | 22 Sarvadhārin . | 9 Mārgaśīra . |
| 4090 | 911 | 1046 | 395 | 163-64 | *988-89 | 22 Sarvadhārin . | 23 Virōdhin . . | ... |
| 4091 | 912 | 1047 | 396 | 164-65 | 989-90 | 23 Virōdhin . . | 24 Vikṛita ‡ . | ... |
| 4092 | 913 | 1048 | 397 | 165-66 | 990-91 | 24 Vikṛita . . | 26 Nandana . . | 6 Bhādrapada |
| 4093 | 914 | 1049 | 398 | 166-67 | 991-92 | 25 Khara . . | 27 Vijaya . . | ... |
| 4094 | 915 | 1050 | 399 | 167-68 | *992-93 | 26 Nandana . . | 28 Jaya . . | ... |
| 4095 | 916 | 1051 | 400 | 168-69 | 993-94 | 27 Vijaya . . | 29 Manmatha . | 2 Vaiśākha . |

† By the "Indian Calendar" 7 Āśvina was intercalated.

‡ 25 Khara was expunged in the north by the mean system, but 26 Nandana by the true system. By the true system the year A.D. 990-91 was, in the north, called "Khara."

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | Kali year. |
|---------------------|-------------|-----------------------------|---|-------------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Māsasamkrānti. | Day and month, A.D. | Week-day. | α (here= ι , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 24 Mar. (83) . . . | 4 Wed. . . | 19 55 0 | 22 Mar. (81) . . . | 2 Mon. . . | 310-5271 | 4071 |
| 25 Mar. (84) . . . | 6 Fri. . . | 2 7 30 | 11 Mar. (70) . . . | 6 Fri. . . | 186-2104 | 4072 |
| 25 Mar. (84) . . . | 0 Sat. . . | 8 20 0 | 28 Feb. (59) . . . | 3 Tues. . . | 61-8939 | 4073 |
| 24 Mar. (84) . . . | 1 Sun. . . | 14 32 30 | 18 Mar. (78) . . . | 2 Mon. . . | 96-5335 | 4074 |
| 24 Mar. (83) . . . | 2 Mon. . . | 20 45 0 | 8 Mar. (67) . . . | 0 Sat. . . | 310-8487 | 4075 |
| 25 Mar. (84) . . . | 4 Wed. . . | 2 57 30 | 25 Feb. (56) . . . | 4 Wed. . . | 186-5321 | 4076 |
| 25 Mar. (84) . . . | 5 Thur. . . | 9 10 0 | 16 Mar. (75) . . . | 3 Tues. . . | 221-1716 | 4077 |
| 24 Mar. (84) . . . | 6 Fri. . . | 15 22 30 | 4 Mar. (64) . . . | 0 Sat. . . | 96-8550 | 4078 |
| 24 Mar. (83) . . . | 0 Sat. . . | 21 35 0 | 23 Mar. (82) . . . | 6 Fri. . . | 131-4946 | 4079 |
| 25 Mar. (84) . . . | 2 Mon. . . | 3 47 30 | 12 Mar. (71) . . . | 3 Tues. . . | 7-1781 | 4080 |
| 25 Mar. (84) . . . | 3 Tues. . . | 10 0 0 | 2 Mar. (61) . . . | 1 Sun. . . | 221-4933 | 4081 |
| 24 Mar. (84) . . . | 4 Wed. . . | 16 12 30 | 20 Mar. (80) . . . | 0 Sat. . . | 256-1329 | 4082 |
| 24 Mar. (83) . . . | 5 Thur. . . | 22 25 0 | 9 Mar. (68) . . . | 4 Wed. . . | 131-8163 | 4083 |
| 25 Mar. (84) . . . | 0 Sat. . . | 4 37 30 | 28 Feb. (57) . . . | 1 Sun. . . | 7-4998 | 4084 |
| 25 Mar. (84) . . . | 1 Sun. . . | 10 50 0 | 17 Mar. (76) . . . | 0 Sat. . . | 41-1393 | 4085 |
| 24 Mar. (84) . . . | 2 Mon. . . | 17 2 30 | 6 Mar. (66) . . . | 5 Thur. . . | 256-4546 | 4086 |
| 24 Mar. (83) . . . | 3 Tues. . . | 23 15 0 | 23 Feb. (54) . . . | 2 Mon. . . | 132-1379 | 4087 |
| 25 Mar. (84) . . . | 5 Thur. . . | 5 27 30 | 14 Mar. (73) . . . | 1 Sun. . . | 166-7776 | 4088 |
| 25 Mar. (84) . . . | 6 Fri. . . | 11 40 0 | 3 Mar. (62) . . . | 5 Thur. . . | 42-4610 | 4089 |
| 24 Mar. (84) . . . | 0 Sat. . . | 17 52 30 | 21 Mar. (81) . . . | 4 Wed. . . | 77-1000 | 4090 |
| 25 Mar. (84) . . . | 2 Mon. . . | 0 5 0 | 11 Mar. (70) . . . | 2 Mon. . . | 251-4158 | 4091 |
| 25 Mar. (84) . . . | 3 Tues. . . | 6 17 30 | 28 Feb. (59) . . . | 6 Fri. . . | 167-0992 | 4092 |
| 25 Mar. (84) . . . | 4 Wed. . . | 12 30 0 | 19 Mar. (78) . . . | 5 Thur. . . | 301-7389 | 4093 |
| 24 Mar. (84) . . . | 5 Thur. . . | 18 42 30 | 7 Mar. (67) . . . | 2 Mon. . . | 77-4222 | 4094 |
| 25 Mar. (84) . . . | 0 Sat. . . | 0 55 0 | 25 Feb. (56) . . . | 0 Sat. . . | 291-7375 | 4095 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|----------------------|----------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4096 | 917 | 1052 | 401 | 169-70 | 994-95 | 28 Jaya . . | 30 <i>Durmukha</i> . | ... |
| 4097 | 918 | 1053 | 402 | 170-71 | 995-96 | 29 Manmatha . | 31 Hēmalamba . | 11 Māgha . |
| 4098 | 919 | 1054 | 403 | 171-72 | *996-97 | 30 <i>Durmukha</i> . | 32 Vilamba . | ... |
| 4099 | 920 | 1055 | 404 | 172-73 | 997-98 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4100 | 921 | 1056 | 405 | 173-74 | 998-99 | 32 Vilamba . | 34 Sārvarin . | 7 Āsvina . |
| 4101 | 922 | 1057 | 406 | 174-75 | 999-000 | 33 Vikārin . | 35 Plava . . | ... |
| 4102 | 923 | 1058 | 407 | 175-76 | *1000-01 | 34 Sārvarin . | 36 Subhakṛit . | ... |
| 4103 | 924 | 1059 | 408 | 176-77 | 1001-02 | 35 Plava . . | 37 Śobhana . | 4 Āshāḍha . |
| 4104 | 925 | 1060 | 409 | 177-78 | 1002-03 | 36 Subhakṛit . | 38 Kródhin . | ... |
| 4105 | 926 | 1061 | 410 | 178-79 | 1003-04 | 37 Śobhana . | 39 Viśvāvasu . | 12 Phālguna . |
| 4106 | 927 | 1062 | 411 | 179-80 | *1004-05 | 38 Kródhin . | 40 Parābhava . | ... |
| 4107 | 928 | 1063 | 412 | 180-81 | 1005-06 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4108 | 929 | 1064 | 413 | 181-82 | 1006-07 | 40 Parābhava . | 42 Kilaka . . | 9 Mārgasīra . |
| 4109 | 930 | 1065 | 414 | 182-83 | 1007-08 | 41 Plavaṅga . | 43 Saumya . | ... |
| 4110 | 931 | 1066 | 415 | 183-84 | *1008-09 | 42 Kilaka . . | 44 Sādhāraṇa . | ... |
| 4111 | 932 | 1067 | 416 | 184-85 | 1009-10 | 43 Saumya . | 45 Virōdhakṛit . | 5 Śrāvapa . |
| 4112 | 933 | 1068 | 417 | 185-86 | 1010-11 | 44 Sādhāraṇa . | 46 Paridhāvin . | ... |
| 4113 | 934 | 1069 | 418 | 186-87 | 1011-12 | 45 Virōdhakṛit . | 47 Pramādin . | ... |
| 4114 | 935 | 1070 | 419 | 187-88 | *1012-13 | 46 Paridhāvin . | 48 Ānanda . | 2 Vaiśākha . |
| 4115 | 936 | 1071 | 420 | 188-89 | 1013-14 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4116 | 937 | 1072 | 421 | 189-90 | 1014-15 | 48 Ānanda . | 50 Anala . . | 10 Pausa . |
| 4117 | 938 | 1073 | 422 | 190-91 | 1015-16 | 49 Rākshasa . | 51 Pīṅgala . | ... |
| 4118 | 939 | 1074 | 423 | 191-92 | *1016-17 | 50 Anala . . | 52 Kālayukta . | ... |
| 4119 | 940 | 1075 | 424 | 192-93 | 1017-18 | 51 Pīṅgala . | 53 Siddhārthin . | 7 Āsvina . |
| 4120 | 941 | 1076 | 425 | 193-94 | 1018-19 | 52 Kālayukta . | 54 Raudra . | ... |

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SURYA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mésa-samkrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 25 Mar. (84) . . | 1 Sun. . | 7 7 30 | 16 Mar. (75) . . | 6 Fri. . | 326-3771 | 4096 |
| 25 Mar. (84) . . | 2 Mon. . | 13 20 0 | 5 Mar. (64) . . | 3 Tues. . | 202-0605 | 4097 |
| 24 Mar. (84) . . | 3 Tues. . | 19 32 30 | 23 Mar. (83) . . | 2 Mon. . | 236-7001 | 4098 |
| 25 Mar. (84) . . | 5 Thur. . | 1 45 0 | 12 Mar. (71) . . | 6 Fri. . | 112-3825 | 4099 |
| 25 Mar. (84) . . | 6 Fri. . | 7 57 30 | 2 Mar. (61) . . | 4 Wed. . | 326-6988 | 4105 |
| 25 Mar. (84) . . | 0 Sat. . | 14 10 0 | 20 Mar. (79) . . | 2 Mon. . | 22-7065 | 4101 |
| 24 Mar. (84) . . | 1 Sun. . | 20 22 30 | 9 Mar. (69) . . | 0 Sat. . | 237-0218 | 4102 |
| 25 Mar. (84) . . | 3 Tues. . | 2 35 0 | 26 Feb. (57) . . | 4 Wed. . | 112-7052 | 4103 |
| 25 Mar. (84) . . | 4 Wed. . | 8 47 30 | 17 Mar. (76) . . | 3 Tues. . | 147-3448 | 4104 |
| 25 Mar. (84) . . | 5 Thur. . | 15 0 0 | 6 Mar. (65) . . | 0 Sat. . | 23-0272 | 4105 |
| 24 Mar. (84) . . | 6 Fri. . | 21 12 30 | 24 Mar. (84) . . | 6 Fri. . | 57-6667 | 4106 |
| 25 Mar. (84) . . | 1 Sun. . | 3 25 0 | 14 Mar. (73) . . | 4 Wed. . | 271-9831 | 4107 |
| 25 Mar. (84) . . | 2 Mon. . | 9 37 30 | 3 Mar. (62) . . | 1 Sun. . | 147-6665 | 4108 |
| 25 Mar. (84) . . | 3 Tues. . | 15 50 0 | 22 Mar. (81) . . | 0 Sat. . | 182-3061 | 4109 |
| 24 Mar. (84) . . | 4 Wed. . | 22 2 30 | 16 Mar. (70) . . | 4 Wed. . | 57-9894 | 4110 |
| 25 Mar. (84) . . | 6 Fri. . | 4 15 0 | 28 Feb. (59) . . | 2 Mon. . | 272-3047 | 4111 |
| 25 Mar. (84) . . | 0 Sat. . | 10 27 30 | 19 Mar. (78) . . | 1 Sun. . | 306-9444 | 4112 |
| 25 Mar. (84) . . | 1 Sun. . | 16 40 0 | 8 Mar. (67) . . | 5 Thur. . | 182-6277 | 4113 |
| 24 Mar. (84) . . | 2 Mon. . | 22 52 30 | 25 Feb. (56) . . | 2 Mon. . | 58-3111 | 4114 |
| 25 Mar. (84) . . | 4 Wed. . | 5 5 0 | 15 Mar. (74) . . | 1 Sun. . | 92-9507 | 4115 |
| 25 Mar. (84) . . | 5 Thur. . | 11 17 30 | 5 Mar. (64) . . | 6 Fri. . | 207-2659 | 4116 |
| 25 Mar. (84) . . | 6 Fri. . | 17 30 0 | 23 Mar. (82) . . | 4 Wed. . | 3-2737 | 4117 |
| 24 Mar. (84) . . | 0 Sat. . | 23 42 30 | 12 Mar. (72) . . | 2 Mon. . | 217-5840 | 4118 |
| 25 Mar. (84) . . | 2 Mon. . | 5 55 0 | 1 Mar. (60) . . | 6 Fri. . | 93-2723 | 4119 |
| 25 Mar. (84) . . | 3 Tues. . | 12 7 30 | 20 Mar. (79) . . | 5 Thur. . | 127-9119 | 4120 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|----------------------|----------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chalukya Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4121 | 942 | 1077 | 426 | 194-95 | * 1019-20 | 53 Siddhārthin . | 53 Durmati . | ... |
| 4122 | 943 | 1078 | 427 | 195-96 | * 1020-21 | 54 Raudra . | 56 Dandubhi . | 4 Āshādha † . |
| 4123 | 944 | 1079 | 428 | 196-97 | 1021-22 | 55 Durmati . | 57 Rudhirōdgārīn | ... |
| 4124 | 945 | 1080 | 429 | 197-98 | 1022-23 | 56 Dandubhi . | 58 Raktāksha . | 12 Phālguna . |
| 4125 | 946 | 1081 | 430 | 198-99 | 1023-24 | 57 Rudhirōdgārīn | 59 Krōdhana . | ... |
| 4126 | 947 | 1082 | 431 | 199-200 | * 1024-25 | 58 Raktāksha . | 60 Kahaya . | ... |
| 4127 | 948 | 1083 | 432 | 200-01 | 1025-26 | 59 Krōdhana . | 1 Prabhava . | 9 Mārgaśīra . |
| 4128 | 949 | 1084 | 433 | 201-02 | 1026-27 | 60 Kahaya . | 2 Vibhava . | ... |
| 4129 | 950 | 1085 | 434 | 202-03 | 1027-28 | 1 Prabhava . | 3 Śukla . | ... |
| 4130 | 951 | 1086 | 435 | 203-04 | * 1028-29 | 2 Vibhava . | 4 Pramōda . | 5 Śrāvapa . |
| 4131 | 952 | 1087 | 436 | 204-05 | 1029-30 | 3 Śukla . | 5 Prajāpati . | ... |
| 4132 | 953 | 1088 | 437 | 205-06 | 1030-31 | 4 Pramōda . | 6 Angīras . | ... |
| 4133 | 954 | 1089 | 438 | 206-07 | 1031-32 | 5 Prajāpati . | 7 Śrīmukha . | 2 Vaisākha . |
| 4134 | 955 | 1090 | 439 | 207-08 | * 1032-33 | 6 Angīras . | 8 Bhāva . | ... |
| 4135 | 956 | 1091 | 440 | 208-09 | 1033-34 | 7 Śrīmukha . | 9 Yuvan . | 10 Pausa . |
| 4136 | 957 | 1092 | 441 | 209-10 | 1034-35 | 8 Bhāva . | 10 Dhātṛī . | ... |
| 4137 | 958 | 1093 | 442 | 210-11 | 1035-36 | 9 Yuvan . | 11 Īvara . | ... |
| 4138 | 959 | 1094 | 443 | 211-12 | * 1036-37 | 10 Dhātṛī . | 12 Bahudhānya . | 7 Āvina . |
| 4139 | 960 | 1095 | 444 | 212-13 | 1037-38 | 11 Īvara . | 13 Pramādin . | ... |
| 4140 | 961 | 1096 | 445 | 213-14 | 1038-39 | 12 Bahudhānya . | 14 Vikrama . | ... |
| 4141 | 962 | 1097 | 446 | 214-15 | 1039-40 | 13 Pramādin . | 15 Vṛisha . | 3 Jyēṣṭha . |
| 4142 | 963 | 1098 | 447 | 215-16 | * 1040-41 | 14 Vikrama . | 16 Chitrabhānu . | ... |
| 4143 | 964 | 1099 | 448 | 216-17 | 1041-42 | 15 Vṛisha . | 17 Subhānu . | 12 Phālguna |
| 4144 | 965 | 1100 | 449 | 217-18 | 1042-43 | 16 Chitrabhānu . | 18 Tāraka . | ... |
| 4145 | 966 | 1101 | 450 | 218-19 | 1043-44 | 17 Subhānu . | 19 Pārthiva . | ... |

† By the "Indian Calendar" 3 Jyēṣṭha was intercalated.

LXXVI—Contd.

1 Ārya Siddhānta, mean system,

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SŪKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-saṅkrānti. | Day and month, A.D. | Week-day. | a (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 25 Mar. (84) . | 4 Wed. . | 18 20 0 | 9 Mar. (68) . | 2 Mon. . | 3-5953 | 4121 |
| 25 Mar. (85) . | 6 Fri. . | 0 32 30 | 27 Feb. (58) . | 0 Sat. . | 217-8106 | 4122 |
| 25 Mar. (84) . | 0 Sat. . | 6 45 0 | 17 Mar. (76) . | 6 Fri. . | 252-5502 | 4123 |
| 25 Mar. (84) . | 1 Sun. . | 12 57 30 | 6 Mar. (65) . | 3 Tues. . | 128-2336 | 4124 |
| 25 Mar. (84) . | 2 Mon. . | 19 10 0 | 25 Mar. (84) . | 2 Mon. . | 162-8732 | 4125 |
| 25 Mar. (85) . | 4 Wed. . | 1 22 30 | 13 Mar. (73) . | 6 Fri. . | 38-5666 | 4126 |
| 25 Mar. (84) . | 5 Thur. . | 7 35 0 | 3 Mar. (62) . | 4 Wed. . | 252-8719 | 4127 |
| 25 Mar. (84) . | 6 Fri. . | 13 47 30 | 22 Mar. (81) . | 3 Tues. . | 287-5115 | 4128 |
| 25 Mar. (84) . | 0 Sat. . | 20 0 0 | 11 Mar. (70) . | 0 Sat. . | 163-1948 | 4129 |
| 25 Mar. (85) . | 2 Mon. . | 2 12 30 | 28 Feb. (59) . | 4 Wed. . | 38-8782 | 4130 |
| 25 Mar. (84) . | 3 Tues. . | 8 25 0 | 18 Mar. (77) . | 3 Tues. . | 73-5179 | 4131 |
| 25 Mar. (84) . | 4 Wed. . | 14 37 30 | 8 Mar. (67) . | 1 Sun. . | 287-8331 | 4132 |
| 25 Mar. (84) . | 5 Thur. . | 20 50 0 | 25 Feb. (56) . | 5 Thur. . | 163-5165 | 4133 |
| 25 Mar. (85) . | 0 Sat. . | 3 2 30 | 15 Mar. (75) . | 4 Wed. . | 198-1561 | 4134 |
| 25 Mar. (84) . | 1 Sun. . | 9 15 0 | 4 Mar. (63) . | 1 Sun. . | 73-8395 | 4135 |
| 25 Mar. (84) . | 2 Mon. . | 15 27 30 | 23 Mar. (82) . | 0 Sat. . | 108-4791 | 4136 |
| 25 Mar. (84) . | 3 Tues. . | 21 40 0 | 13 Mar. (72) . | 5 Thur. . | 322-7944 | 4137 |
| 25 Mar. (85) . | 5 Thur. . | 3 52 30 | 1 Mar. (61) . | 2 Mon. . | 198-4778 | 4138 |
| 25 Mar. (84) . | 6 Fri. . | 10 5 0 | 20 Mar. (79) . | 1 Sun. . | 233-1174 | 4139 |
| 25 Mar. (84) . | 0 Sat. . | 16 17 30 | 9 Mar. (68) . | 5 Thur. . | 108-8008 | 4140 |
| 25 Mar. (84) . | 1 Sun. . | 22 30 0 | 27 Feb. (58) . | 3 Tues. . | 323-1191 | 4141 |
| 25 Mar. (85) . | 3 Tues. . | 4 42 30 | 16 Mar. (76) . | 1 Sun. . | 19-1238 | 4142 |
| 25 Mar. (84) . | 4 Wed. . | 10 55 0 | 6 Mar. (65) . | 6 Fri. . | 233-4391 | 4143 |
| 25 Mar. (84) . | 5 Thur. . | 17 7 30 | 25 Mar. (84) . | 5 Thur. . | 268-0787 | 4144 |
| 25 Mar. (84) . | 6 Fri. . | 23 20 0 | 14 Mar. (73) . | 2 Mon. . | 143-7821 | 4145 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4146 | 967 | 1102 | 451 | 219-20 | *1044-45 | 18 Tārāga . . | 20 Vyaya . . | 8 Kārttika . . |
| 4147 | 968 | 1103 | 452 | 220-21 | 1045-46 | 19 Pārthiva . . | 21 Sarvajit . . | ... |
| 4148 | 969 | 1104 | 453 | 221-22 | 1046-47 | 20 Vyaya . . | 22 Sarvadhārin . . | ... |
| 4149 | 970 | 1105 | 454 | 222-23 | 1047-48 | 21 Sarvajit . . | 23 Virōdhin . . | 5 Śrāvaga . . |
| 4150 | 971 | 1106 | 455 | 223-24 | *1048-49 | 22 Sarvadhārin . . | 24 Vikṛita . . | ... |
| 4151 | 972 | 1107 | 456 | 224-25 | 1049-50 | 23 Virōdhin . . | 25 Khara . . | ... |
| 4152 | 973 | 1108 | 457 | 225-26 | 1050-51 | 24 Vikṛita . . | 26 Nandana . . | 1 Chaitra . . |
| 4153 | 974 | 1109 | 458 | 226-27 | 1051-52 | 25 Khara . . | 27 Vijaya . . | ... |
| 4154 | 975 | 1110 | 459 | 227-28 | *1052-53 | 26 Nandana . . | 28 Jaya . . | 10 Pausa . . |
| 4155 | 976 | 1111 | 460 | 228-29 | 1053-54 | 27 Vijaya . . | 29 Manmatha . . | ... |
| 4156 | 977 | 1112 | 461 | 229-30 | 1054-55 | 28 Jaya . . | 30 Durmukha . . | ... |
| 4157 | 978 | 1113 | 462 | 230-31 | 1055-56 | 29 Manmatha . . | 31 Hēmalamba . . | 7 Āśvinaḥ . . |
| 4158 | 979 | 1114 | 463 | 231-32 | *1056-57 | 30 Durmukha . . | 32 Vilamba . . | ... |
| 4159 | 980 | 1115 | 464 | 232-33 | 1057-58 | 31 Hēmalamba . . | 33 Vikārin . . | ... |
| 4160 | 981 | 1116 | 465 | 233-34 | 1058-59 | 32 Vilamba . . | 34 Śārvarin . . | 3 Jyēṣṭha . . |
| 4161 | 982 | 1117 | 466 | 234-35 | 1059-60 | 33 Vikārin . . | 35 Plava . . | ... |
| 4162 | 983 | 1118 | 467 | 235-36 | *1060-61 | 34 Śārvarin . . | 36 Subhakti . . | 12 Phālguna . . |
| 4163 | 984 | 1119 | 468 | 236-37 | 1061-62 | 35 Plava . . | 37 Śobhana . . | ... |
| 4164 | 985 | 1120 | 469 | 237-38 | 1062-63 | 36 Subhakti . . | 38 Krōdhin . . | ... |
| 4165 | 986 | 1121 | 470 | 238-39 | 1063-64 | 37 Śobhana . . | 39 Viśvāvasu . . | 8 Kārttika . . |
| 4166 | 987 | 1122 | 471 | 239-40 | *1064-65 | 38 Krōdhin . . | 40 Parābhava . . | ... |
| 4167 | 988 | 1123 | 472 | 240-41 | 1065-66 | 39 Viśvāvasu . . | 41 Plavaṅga . . | ... |
| 4168 | 989 | 1124 | 473 | 241-42 | 1066-67 | 40 Parābhava . . | 42 Kilaka . . | 5 Śrāvaga . . |
| 4169 | 990 | 1125 | 474 | 242-43 | 1067-68 | 41 Plavaṅga . . | 43 Saumya . . | ... |
| 4170 | 991 | 1126 | 475 | 243-44 | *1068-69 | 42 Kilaka . . | 44 Sādhāra . . | ... |

† By the "Indian Calendar" 6 Bhādrapada was the intercalated month.

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | | Kali year. |
|------------------------|-----------------|-------------------------------|---|-----------------|--|------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 | |
| | | H. M. S. | | | | | |
| 25 Mar. (85) | 1 Sun. | 5 32 30 | 2 Mar. (62) | 6 Fri. | 19-4454 | 4146 | |
| 25 Mar. (84) | 2 Mon. | 11 45 0 | 21 Mar. (80) | 5 Thur. | 54-0850 | 4147 | |
| 25 Mar. (84) | 3 Tues. | 17 57 30 | 11 Mar. (70) | 3 Tues. | 268-4063 | 4148 | |
| 26 Mar. (85) | 5 Thur. | 0 10 0 | 28 Feb. (59) | 0 Sat. | 144-0838 | 4149 | |
| 25 Mar. (85) | 6 Fri. | 6 22 30 | 18 Mar. (78) | 6 Fri. | 178-7233 | 4150 | |
| 25 Mar. (84) | 0 Sat. | 12 35 0 | 7 Mar. (66) | 3 Tues. | 54-4067 | 4151 | |
| 25 Mar. (84) | 1 Sun. | 18 47 30 | 25 Feb. (56) | 1 Sun. | 268-7219 | 4152 | |
| 26 Mar. (85) | 3 Tues. | 1 0 0 | 16 Mar. (75) | 0 Sat. | 303-3615 | 4153 | |
| 25 Mar. (85) | 4 Wed. | 7 12 30 | 4 Mar. (64) | 4 Wed. | 179-0449 | 4154 | |
| 25 Mar. (84) | 5 Thur. | 13 25 0 | 23 Mar. (82) | 3 Tues. | 213-6845 | 4155 | |
| 25 Mar. (84) | 6 Fri. | 19 37 30 | 12 Mar. (71) | 0 Sat. | 89-3679 | 4156 | |
| 26 Mar. (85) | 1 Sun. | 1 50 0 | 2 Mar. (61) | 5 Thur. | 303-6832 | 4157 | |
| 25 Mar. (85) | 2 Mon. | 8 2 30 | 19 Mar. (79) | 3 Tues. | 0999-0999 § | 4158 | |
| 25 Mar. (84) | 3 Tues. | 14 15 0 | 9 Mar. (68) | 1 Sun. | 214-0062 | 4159 | |
| 25 Mar. (84) | 4 Wed. | 20 27 30 | 26 Feb. (57) | 5 Thur. | 89-6896 | 4160 | |
| 26 Mar. (85) | 6 Fri. | 2 40 0 | 17 Mar. (76) | 4 Wed. | 124-3292 | 4161 | |
| 25 Mar. (85) | 0 Sat. | 8 52 30 | 5 Mar. (65) | 1 Sun. | 0-0126 | 4162 | |
| 25 Mar. (84) | 1 Sun. | 15 5 0 | 24 Mar. (83) | 0 Sat. | 34-6522 | 4163 | |
| 25 Mar. (84) | 2 Mon. | 21 17 30 | 14 Mar. (73) | 5 Thur. | 218-9675 | 4164 | |
| 26 Mar. (85) | 4 Wed. | 3 30 0 | 3 Mar. (62) | 2 Mon. | 124-6508 | 4165 | |
| 25 Mar. (85) | 5 Thur. | 9 42 30 | 21 Mar. (81) | 1 Sun. | 150-2966 | 4166 | |
| 25 Mar. (84) | 6 Fri. | 15 55 0 | 10 Mar. (69) | 5 Thur. | 34-9739 | 4167 | |
| 25 Mar. (84) | 0 Sat. | 22 7 30 | 28 Feb. (59) | 3 Tues. | 249-2892 | 4168 | |
| 26 Mar. (85) | 2 Mon. | 4 20 0 | 19 Mar. (78) | 2 Mon. | 283-9288 | 4169 | |
| 25 Mar. (85) | 3 Tues. | 10 32 30 | 7 Mar. (67) | 6 Fri. | 159-6122 | 4170 | |

§ As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4171 | 992 | 1127 | 476 | 244-45 | 1069-70 | 43 Saumya . | 45 Virōdhakṛit . | 1 Chaitra . |
| 4172 | 993 | 1128 | 477 | 245-46 | 1070-71 | 44 Sādhārāya . | 46 Paridhāvin . | ... |
| 4173 | 994 | 1129 | 478 | 246-47 | 1071-72 | 45 Virōdhakṛit . | 47 Pramādin . | 10 Pausa . |
| 4174 | 995 | 1130 | 479 | 247-48 | *1072-73 | 46 Paridhāvin . | 48 Ānanda . | ... |
| 4175 | 996 | 1131 | 480 | 248-49 | 1073-74 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4176 | 997 | 1132 | 481 | 249-50 | 1074-75 | 48 Ānanda . | 50 Anala . | 6 Bhādrapada |
| 4177 | 998 | 1133 | 482 | 250-51 | 1075-76 | 49 Rākshasa . | 51 Pīngala † . | ... |
| 4178 | 999 | 1134 | 483 | 251-52 | *1076-77 | 50 Anala . | 53 Siddhārthin . | ... |
| 4179 | 1000 | 1135 | 484 | 252-53 | 1077-78 | 51 Pīngala . | 54 Raudra . | 3 Jyēṣṭha . |
| 4180 | 1001 | 1136 | 485 | 253-54 | 1078-79 | 52 Kālayukta . | 55 Dūrmati . | ... |
| 4181 | 1002 | 1137 | 486 | 254-55 | 1079-80 | 53 Siddhārthin . | 56 Dandubhi . | 11 Māgha . |
| 4182 | 1003 | 1138 | 487 | 255-56 | *1080-81 | 54 Raudra . | 57 Rudhīrōdgārīn | ... |
| 4183 | 1004 | 1139 | 488 | 256-57 | 1081-82 | 55 Dūrmati . | 58 Raktāksha . | ... |
| 4184 | 1005 | 1140 | 489 | 257-58 | 1082-83 | 56 Dandubhi . | 59 Krōdhana . | 8 Kārttika . |
| 4185 | 1006 | 1141 | 490 | 258-59 | 1083-84 | 57 Rudhīrōdgārīn | 60 Kshaya . | ... |
| 4186 | 1007 | 1142 | 491 | 259-60 | *1084-85 | 58 Raktāksha . | 1 Prabhava . | ... |
| 4187 | 1008 | 1143 | 492 | 260-61 | 1085-86 | 59 Krōdhana . | 2 Vibhava . | 4 Āshāḍha . |
| 4188 | 1009 | 1144 | 493 | 261-62 | 1086-87 | 60 Kshaya . | 3 Sukla . | ... |
| 4189 | 1010 | 1145 | 494 | 262-63 | 1087-88 | 1 Prabhava . | 4 Pramōda . | ... |
| 4190 | 1011 | 1146 | 495 | 263-64 | *1088-89 | 2 Vibhava . | 5 Prajāpati . | 1 Chaitra . |
| 4191 | 1012 | 1147 | 496 | 264-65 | 1089-90 | 3 Sukla . | 6 Aṅgīras . | ... |
| 4192 | 1013 | 1148 | 497 | 265-66 | 1090-91 | 4 Pramōda . | 7 Śrīmukha . | 9 Mārgaśīra . |
| 4193 | 1014 | 1149 | 498 | 266-67 | 1091-92 | 5 Prajāpati . | 8 Bhāva . | ... |
| 4194 | 1015 | 1150 | 499 | 267-68 | *1092-93 | 6 Aṅgīras . | 9 Yavan . | ... |
| 4195 | 1016 | 1151 | 500 | 268-69 | 1093-94 | 7 Śrīmukha . | 10 Dhātṛi . | 6 Bhādrapada |

† 52 Kālayukta was suppressed in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 25 Mar. (84) . . | 4 Wed. . . | 16 45 0 | 24 Feb. (55) . . | 3 Tues. . . | 35-2955 | 4171 |
| 25 Mar. (84) . . | 5 Thur. . . | 22 57 30 | 15 Mar. (74) . . | 2 Mon. . . | 69-9351 | 4172 |
| 26 Mar. (85) . . | 0 Sat. . . | 5 10 0 | 5 Mar. (64) . . | 0 Sat. . . | 284-2504 | 4173 |
| 25 Mar. (85) . . | 1 Sun. . . | 11 22 30 | 23 Mar. (83) . . | 0 Fri. . . | 318-8901 | 4174 |
| 25 Mar. (84) . . | 2 Mon. . . | 17 35 0 | 12 Mar. (71) . . | 3 Tues. . . | 194-5734 | 4175 |
| 25 Mar. (84) . . | 3 Tues. . . | 23 47 30 | 1 Mar. (60) . . | 0 Sat. . . | 70-2508 | 4176 |
| 26 Mar. (85) . . | 5 Thur. . . | 6 0 0 | 20 Mar. (79) . . | 6 Fri. . . | 104-8964 | 4177 |
| 25 Mar. (85) . . | 6 Fri. . . | 12 12 30 | 9 Mar. (69) . . | 4 Wed. . . | 319-2116 | 4178 |
| 25 Mar. (84) . . | 0 Sat. . . | 18 25 0 | 26 Feb. (57) . . | 1 Sun. . . | 194-8950 | 4179 |
| 26 Mar. (85) . . | 2 Mon. . . | 0 37 30 | 17 Mar. (76) . . | 0 Sat. . . | 229-5347 | 4180 |
| 26 Mar. (85) . . | 3 Tues. . . | 6 50 0 | 6 Mar. (65) . . | 4 Wed. . . | 105-2180 | 4181 |
| 25 Mar. (85) . . | 4 Wed. . . | 13 2 30 | 24 Mar. (84) . . | 3 Tues. . . | 139-8576 | 4182 |
| 25 Mar. (84) . . | 5 Thur. . . | 19 15 0 | 13 Mar. (72) . . | 0 Sat. . . | 15-5410 | 4183 |
| 26 Mar. (85) . . | 0 Sat. . . | 1 27 30 | 3 Mar. (62) . . | 5 Thur. . . | 229-8563 | 4184 |
| 26 Mar. (85) . . | 1 Sun. . . | 7 40 0 | 22 Mar. (81) . . | 4 Wed. . . | 264-4959 | 4185 |
| 25 Mar. (85) . . | 2 Mon. . . | 13 52 30 | 10 Mar. (70) . . | 1 Sun. . . | 149-1793 | 4186 |
| 25 Mar. (84) . . | 3 Tues. . . | 20 5 0 | 27 Feb. (58) . . | 5 Thur. . . | 15-8627 | 4187 |
| 26 Mar. (85) . . | 5 Thur. . . | 2 17 30 | 18 Mar. (77) . . | 4 Wed. . . | 50-5023 | 4188 |
| 26 Mar. (85) . . | 6 Fri. . . | 8 30 0 | 8 Mar. (67) . . | 2 Mon. . . | 264-8176 | 4189 |
| 25 Mar. (85) . . | 0 Sat. . . | 14 42 30 | 25 Feb. (56) . . | 6 Fri. . . | 149-5009 | 4190 |
| 25 Mar. (84) . . | 1 Sun. . . | 20 55 0 | 15 Mar. (74) . . | 5 Thur. . . | 175-1405 | 4191 |
| 26 Mar. (85) . . | 3 Tues. . . | 3 7 30 | 4 Mar. (63) . . | 2 Mon. . . | 50-8239 | 4192 |
| 26 Mar. (85) . . | 4 Wed. . . | 9 20 0 | 23 Mar. (82) . . | 1 Sun. . . | 87-4636 | 4193 |
| 25 Mar. (85) . . | 5 Thur. . . | 15 32 30 | 12 Mar. (72) . . | 5 Fri. . . | 229-7788 | 4194 |
| 25 Mar. (84) . . | 6 Fri. . . | 21 45 0 | 1 Mar. (60) . . | 3 Tues. . . | 175-4621 | 4195 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|-------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrad Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SĀMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4196 | 1017 | 1152 | 501 | 269-70 | 1094-95 | 8 Bhāva . . | 11 Iśvara . . | ... |
| 4197 | 1018 | 1153 | 502 | 270-71 | 1095-96 | 9 Yuvan . . | 12 Bahudhānya . | ... |
| 4198 | 1019 | 1154 | 503 | 271-72 | *1096-97 | 10 Dhātri . . | 13 Pramādin . . | 3 Jyēsthā † . |
| 4199 | 1020 | 1155 | 504 | 272-73 | 1097-98 | 11 Iśvara . . | 14 Vikrama . . | ... |
| 4200 | 1021 | 1156 | 505 | 273-74 | 1098-99 | 12 Bahudhānya . | 15 Vṛisha . . | 11 Māgha . . |
| 4201 | 1022 | 1157 | 506 | 274-75 | 1099-00 | 13 Pramādin . . | 16 Chitrabhānu . | ... |
| 4202 | 1023 | 1158 | 507 | 275-76 | *1100-01 | 14 Vikrama . . | 17 Subhānu . . | ... |
| 4203 | 1024 | 1159 | 508 | 276-77 | 1101-02 | 15 Vṛisha . . | 18 Tāraka . . | 8 Kārttika . . |
| 4204 | 1025 | 1160 | 509 | 277-78 | 1102-03 | 16 Chitrabhānu . | 19 Pārthiva . . | ... |
| 4205 | 1026 | 1161 | 510 | 278-79 | 1103-04 | 17 Subhānu . . | 20 Vyaya . . | ... |
| 4206 | 1027 | 1162 | 511 | 279-80 | *1104-05 | 18 Tāraka . . | 21 Sarvajit . . | 4 Āshāḍha . . |
| 4207 | 1028 | 1163 | 512 | 280-81 | 1105-06 | 19 Pārthiva . . | 22 Sarvadhārin . | ... |
| 4208 | 1029 | 1164 | 513 | 281-82 | 1106-07 | 20 Vyaya . . | 23 Virōdhin . . | ... |
| 4209 | 1030 | 1165 | 514 | 282-83 | 1107-08 | 21 Sarvajit . . | 24 Vikṛita . . | 1 Chaitra . . |
| 4210 | 1031 | 1166 | 515 | 283-84 | *1108-09 | 22 Sarvadhārin . | 25 Khara . . | ... |
| 4211 | 1032 | 1167 | 516 | 284-85 | 1109-10 | 23 Virōdhin . . | 26 Nandana . . | 9 Mārgaśīra . |
| 4212 | 1033 | 1168 | 517 | 285-86 | 1110-11 | 24 Vikṛita . . | 27 Vijaya . . | ... |
| 4213 | 1034 | 1169 | 518 | 286-87 | 1111-12 | 25 Khara . . | 28 Jaya . . | ... |
| 4214 | 1035 | 1170 | 519 | 287-88 | *1112-13 | 26 Nandana . . | 29 Manmatha . . | 6 Bhādrapada |
| 4215 | 1036 | 1171 | 520 | 288-89 | 1113-14 | 27 Vijaya . . | 30 Darmukha . . | ... |
| 4216 | 1037 | 1172 | 521 | 289-90 | 1114-15 | 28 Jaya . . | 31 Hēmalamba . | ... |
| 4217 | 1038 | 1173 | 522 | 290-91 | 1115-16 | 29 Manmatha . . | 32 Vilamba . . | 2 Vaiśākha . . |
| 4218 | 1039 | 1174 | 523 | 291-92 | *1116-17 | 30 Darmukha . . | 33 Vikārin . . | ... |
| 4219 | 1040 | 1175 | 524 | 292-93 | 1117-18 | 31 Hēmalamba . | 34 Śārvarin . . | 11 Māgha . . |
| 4220 | 1041 | 1176 | 525 | 293-94 | 1118-19 | 32 Vilamba . . | 35 Plava . . | ... |

† By the "Indian Calendar" 2 Vaiśākha was intercalated.

LXXVI—Contd.

1 Arya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Māha-samkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 26 Mar. (85) . | 1 Sun. . | 3 57 30 | 20 Mar. (79) . | 2 Mon. . | 219-1018 | 4196 |
| 26 Mar. (85) . | 2 Mon. . | 10 10 0 | 9 Mar. (68) . | 6 Fri. . | 85-7852 | 4197 |
| 25 Mar. (85) . | 3 Tues. . | 16 22 30 | 27 Feb. (58) . | 4 Wed. . | 300-1005 | 4198 |
| 25 Mar. (84) . | 4 Wed. . | 22 35 0 | 16 Mar. (75) . | 2 Mon. . | 9996-1082† | 4199 |
| 26 Mar. (85) . | 6 Fri. . | 4 47 30 | 6 Mar. (65) . | 0 Sat. . | 210-4235 | 4200 |
| 26 Mar. (85) . | 0 Sat. . | 11 0 0 | 25 Mar. (84) . | 6 Fri. . | 245-0630 | 4201 |
| 26 Mar. (85) . | 1 Sun. . | 17 12 30 | 13 Mar. (73) . | 3 Tues. . | 120-7464 | 4202 |
| 25 Mar. (84) . | 2 Mon. . | 23 25 0 | 2 Mar. (61) . | 0 Sat. . | 9996-4298† | 4203 |
| 26 Mar. (85) . | 4 Wed. . | 5 37 30 | 21 Mar. (80) . | 6 Fri. . | 31-0694 | 4204 |
| 26 Mar. (85) . | 5 Thur. . | 11 50 0 | 11 Mar. (70) . | 4 Wed. . | 245-3847 | 4205 |
| 25 Mar. (85) . | 6 Fri. . | 18 2 30 | 28 Feb. (59) . | 1 Sun. . | 121-0681 | 4206 |
| 26 Mar. (85) . | 1 Sun. . | 0 15 0 | 18 Mar. (77) . | 0 Sat. . | 155-7077 | 4207 |
| 26 Mar. (85) . | 2 Mon. . | 6 27 30 | 7 Mar. (66) . | 4 Wed. . | 31-3911 | 4208 |
| 26 Mar. (85) . | 3 Tues. . | 12 40 0 | 25 Feb. (56) . | 2 Mon. . | 245-7063 | 4209 |
| 25 Mar. (85) . | 4 Wed. . | 18 52 30 | 15 Mar. (75) . | 1 Sun. . | 280-3400 | 4210 |
| 26 Mar. (85) . | 6 Fri. . | 1 5 0 | 4 Mar. (63) . | 5 Thur. . | 156-0293 | 4211 |
| 26 Mar. (85) . | 0 Sat. . | 7 17 30 | 23 Mar. (82) . | 4 Wed. . | 190-6600 | 4212 |
| 26 Mar. (85) . | 1 Sun. . | 13 30 0 | 12 Mar. (71) . | 1 Sun. . | 66-3524 | 4213 |
| 25 Mar. (85) . | 2 Mon. . | 19 42 30 | 1 Mar. (61) . | 6 Fri. . | 280-6676 | 4214 |
| 26 Mar. (85) . | 4 Wed. . | 1 55 0 | 20 Mar. (79) . | 5 Thur. . | 315-3072 | 4215 |
| 26 Mar. (85) . | 5 Thur. . | 8 7 30 | 9 Mar. (68) . | 2 Mon. . | 190-9905 | 4216 |
| 26 Mar. (85) . | 6 Fri. . | 14 20 0 | 26 Feb. (57) . | 6 Fri. . | 66-9740 | 4217 |
| 25 Mar. (85) . | 0 Sat. . | 20 32 30 | 16 Mar. (76) . | 5 Thur. . | 101-3136 | 4218 |
| 26 Mar. (85) . | 2 Mon. . | 2 45 0 | 6 Mar. (65) . | 3 Tues. . | 315-6288 | 4219 |
| 26 Mar. (85) . | 3 Tues. . | 8 57 30 | 24 Mar. (83) . | 1 Sun. . | 11-6365 | 4220 |

† As a mean tithi Chaitra Śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4221 | 1042 | 1177 | 526 | 294-95 | 1119-20 | 33 Vikārin . | 36 Śubhakṛit . | ... |
| 4222 | 1043 | 1178 | 527 | 295-96 | *1120-21 | 34 Śārvarin . | 37 Śōbhana . | 7 Āśvina |
| 4223 | 1044 | 1179 | 528 | 296-97 | 1121-22 | 35 Plava . | 38 Krōdhin . | ... |
| 4224 | 1045 | 1180 | 529 | 297-98 | 1122-23 | 36 Śubhakṛit . | 39 Viāvāvasu . | ... |
| 4225 | 1046 | 1181 | 530 | 298-99 | 1123-24 | 37 Śōbhana . | 40 Parābhava . | 4 Āshādha . |
| 4226 | 1047 | 1182 | 531 | 299-00 | *1124-25 | 38 Krōdhin . | 41 Plavaṅga . | ... |
| 4227 | 1048 | 1183 | 532 | 300-01 | 1125-26 | 39 Viāvāvasu . | 42 Kilaka . | 12 Phālguna . |
| 4228 | 1049 | 1184 | 533 | 301-02 | 1126-27 | 40 Parābhava . | 43 Saumya . | ... |
| 4229 | 1050 | 1185 | 534 | 302-03 | 1127-28 | 41 Plavaṅga . | 44 Sādhāraṇa . | ... |
| 4230 | 1051 | 1186 | 535 | 303-04 | *1128-29 | 42 Kilaka . | 45 Virōdhakṛit . | 9 Mārgaśīra |
| 4231 | 1052 | 1187 | 536 | 304-05 | 1129-30 | 43 Saumya . | 46 Paridhāvin . | ... |
| 4232 | 1053 | 1188 | 537 | 305-06 | 1130-31 | 44 Sādhāraṇa . | 47 Pramādin . | ... |
| 4233 | 1054 | 1189 | 538 | 306-07 | 1131-32 | 45 Virōdhakṛit . | 48 Ānanda . | 6 Bhādrapada |
| 4234 | 1055 | 1190 | 539 | 307-08 | *1132-33 | 46 Paridhāvin . | 49 Rākshasa . | ... |
| 4235 | 1056 | 1191 | 540 | 308-09 | 1133-34 | 47 Pramādin . | 50 Anala . | ... |
| 4236 | 1057 | 1192 | 541 | 309-10 | 1134-35 | 48 Ānanda . | 51 Piṅgala . | 2 Vaiśākha . |
| 4237 | 1058 | 1193 | 542 | 310-11 | 1135-36 | 49 Rākshasa . | 52 Kālayukta . | ... |
| 4238 | 1059 | 1194 | 543 | 311-12 | *1136-37 | 50 Anala . | 53 Siddhārthin . | 11 Māgha . |
| 4239 | 1060 | 1195 | 544 | 312-13 | 1137-38 | 51 Piṅgala . | 54 Raudra . | ... |
| 4240 | 1061 | 1196 | 545 | 313-14 | 1138-39 | 52 Kālayukta . | 55 Dūrmati . | ... |
| 4241 | 1062 | 1197 | 546 | 314-15 | 1139-40 | 53 Siddhārthin . | 56 Dundubhi . | 7 Āśvina |
| 4242 | 1063 | 1198 | 547 | 315-16 | *1140-41 | 54 Raudra . | 57 Rudhirōdgārin . | ... |
| 4243 | 1064 | 1199 | 548 | 316-17 | 1141-42 | 55 Dūrmati . | 58 Raktāksha . | ... |
| 4244 | 1065 | 1200 | 549 | 317-18 | 1142-43 | 56 Dundubhi . | 59 Krōdhana . | 4 Āshādha . |
| 4245 | 1066 | 1201 | 550 | 318-19 | 1143-44 | 57 Rudhirōdgārin . | 60 Kshava . | ... |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here= <i>l</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 26 Mar. (85) . | 4 Wed. | 15 10 0 | 14 Mar. (73) . | 6 Fri. | 225-9518 | 4221 |
| 25 Mar. (85) . | 5 Thur. | 21 22 30 | 2 Mar. (62) . | 3 Tues. | 101-6352 | 4222 |
| 26 Mar. (85) . | 0 Sat. | 3 35 0 | 21 Mar. (80) . | 2 Mon. | 136-2748 | 4223 |
| 26 Mar. (85) . | 1 Sun. | 9 47 30 | 10 Mar. (69) . | 6 Fri. | 11-9582 | 4224 |
| 26 Mar. (85) . | 2 Mon. | 16 0 0 | 28 Feb. (59) . | 4 Wed. | 226-2735 | 4225 |
| 25 Mar. (85) . | 3 Tues. | 22 12 30 | 18 Mar. (78) . | 3 Tues. | 260-9131 | 4226 |
| 26 Mar. (85) . | 5 Thur. | 4 25 0 | 7 Mar. (66) . | 0 Sat. | 136-5965 | 4227 |
| 26 Mar. (85) . | 6 Fri. | 10 37 30 | 26 Mar. (85) . | 6 Fri. | 171-2360 | 4228 |
| 26 Mar. (85) . | 0 Sat. | 16 50 0 | 15 Mar. (74) . | 3 Tues. | 46-9195 | 4229 |
| 25 Mar. (85) . | 1 Sun. | 23 2 30 | 4 Mar. (64) . | 1 Sun. | 261-2348 | 4230 |
| 26 Mar. (85) . | 3 Tues. | 5 15 0 | 25 Mar. (82) . | 0 Sat. | 295-8744 | 4231 |
| 26 Mar. (85) . | 4 Wed. | 11 27 30 | 12 Mar. (71) . | 4 Wed. | 171-5578 | 4232 |
| 26 Mar. (85) . | 5 Thur. | 17 40 0 | 1 Mar. (60) . | 1 Sun. | 47-2411 | 4233 |
| 25 Mar. (85) . | 6 Fri. | 23 52 30 | 19 Mar. (79) . | 0 Sat. | 81-8807 | 4234 |
| 26 Mar. (85) . | 1 Sun. | 6 5 0 | 9 Mar. (68) . | 5 Thur. | 206-1960 | 4235 |
| 26 Mar. (85) . | 2 Mon. | 12 17 30 | 26 Feb. (57) . | 2 Mon. | 171-8794 | 4236 |
| 26 Mar. (85) . | 3 Tues. | 18 30 0 | 17 Mar. (76) . | 1 Sun. | 206-5190 | 4237 |
| 26 Mar. (86) . | 5 Thur. | 0 42 30 | 5 Mar. (65) . | 5 Thur. | 82-2024 | 4238 |
| 26 Mar. (85) . | 6 Fri. | 6 55 0 | 24 Mar. (83) . | 4 Wed. | 116-8420 | 4239 |
| 26 Mar. (85) . | 0 Sat. | 13 7 30 | 14 Mar. (73) . | 2 Mon. | 331-1573 | 4240 |
| 26 Mar. (85) . | 1 Sun. | 19 20 0 | 3 Mar. (62) . | 6 Fri. | 206-8407 | 4241 |
| 26 Mar. (86) . | 3 Tues. | 1 32 30 | 21 Mar. (81) . | 5 Thur. | 241-4803 | 4242 |
| 26 Mar. (85) . | 4 Wed. | 7 45 0 | 10 Mar. (69) . | 2 Mon. | 117-1637 | 4243 |
| 26 Mar. (85) . | 5 Thur. | 13 57 30 | 28 Feb. (59) . | 0 Sat. | 331-4790 | 4244 |
| 26 Mar. (85) . | 6 Fri. | 20 10 0 | 18 Mar. (77) . | 5 Thur. | 27-4867 | 4245 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Meehādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4246 | 1067 | 1202 | 551 | 319-20 | *1144-45 | 58 Raktāksha . | 1 Prabhava . | 12 Phālguna . |
| 4247 | 1068 | 1203 | 552 | 320-21 | 1145-46 | 59 Krōdhana . | 2 Vibhava . | ... |
| 4248 | 1069 | 1204 | 553 | 321-22 | 1146-47 | 60 Kshaya . | 3 Śukla . | ... |
| 4249 | 1070 | 1205 | 554 | 322-23 | 1147-48 | 1 Prabhava . | 4 Pramōda . | 9 Mārgashira . |
| 4250 | 1071 | 1206 | 555 | 323-24 | *1148-49 | 2 Vibhava . | 5 Prajāpati . | ... |
| 4251 | 1072 | 1207 | 556 | 324-25 | 1149-50 | 3 Śukla . | 6 Aṅgiras . | ... |
| 4252 | 1073 | 1208 | 557 | 325-26 | 1150-51 | 4 Pramōda . | 7 Śrīmukha . | 5 Śrāvapa . |
| 4253 | 1074 | 1209 | 558 | 326-27 | 1151-52 | 5 Prajāpati . | 8 Bhāva . | ... |
| 4254 | 1075 | 1210 | 559 | 327-28 | *1152-53 | 6 Aṅgiras . | 9 Yuvan . | ... |
| 4255 | 1076 | 1211 | 560 | 328-29 | 1153-54 | 7 Śrīmukha . | 10 Dhātṛi . | 2 Vaiśākha . |
| 4256 | 1077 | 1212 | 561 | 329-30 | 1154-55 | 8 Bhāva . | 11 Iśvara . | ... |
| 4257 | 1078 | 1213 | 562 | 330-31 | 1155-56 | 9 Yuvan . | 12 Bahudhānya . | 10 Pausa . |
| 4258 | 1079 | 1214 | 563 | 331-32 | *1156-57 | 10 Dhātṛi . | 13 Pramādin . | ... |
| 4259 | 1080 | 1215 | 564 | 332-33 | 1157-58 | 11 Iśvara . | 14 Vikrama . | ... |
| 4260 | 1081 | 1216 | 565 | 333-34 | 1158-59 | 12 Bahudhānya . | 15 Vṛisha . | 7 Āsvina . |
| 4261 | 1082 | 1217 | 566 | 334-35 | 1159-60 | 13 Pramādin . | 16 Chitrabhāna . | ... |
| 4262 | 1083 | 1218 | 567 | 335-36 | *1160-61 | 14 Vikrama . | 17 Subhānu† . | ... |
| 4263 | 1084 | 1219 | 568 | 336-37 | 1161-62 | 15 Vṛisha . | 18 Pārthiva . | 3 Jyēṣṭha . |
| 4264 | 1085 | 1220 | 569 | 337-38 | 1162-63 | 16 Chitrabhāna . | 19 Vyaya . | ... |
| 4265 | 1086 | 1221 | 570 | 338-39 | 1163-64 | 17 Subhānu . | 21 Sarvajit . | 12 Phālguna . |
| 4266 | 1087 | 1222 | 571 | 339-40 | *1164-65 | 18 Tāraka . | 22 Sarvadhārin . | ... |
| 4267 | 1088 | 1223 | 572 | 340-41 | 1165-66 | 19 Pārthiva . | 23 Viśodhin . | ... |
| 4268 | 1089 | 1224 | 573 | 341-42 | 1166-67 | 20 Vyaya . | 24 Vikṛita . | 8 Kārttika . |
| 4269 | 1090 | 1225 | 574 | 342-43 | 1167-68 | 21 Sarvajit . | 25 Khara . | ... |
| 4270 | 1091 | 1226 | 575 | 343-44 | *1168-69 | 22 Sarvadhārin . | 26 Nandana . | ... |

† 18 Tāraka was suppressed in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mīśha-samkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 26 Mar. (86) . . | 1 Sun. . | 2 22 30 | 7 Mar. (67) . . | 3 Tues. . | 241-8019 | 4246 |
| 26 Mar. (85) . . | 2 Mon. . | 8 35 0 | 26 Mar. (85) . . | 2 Mon. . | 276-4415 | 4247 |
| 26 Mar. (85) . . | 3 Tues. . | 14 47 30 | 15 Mar. (74) . . | 6 Fri. . | 152-1249 | 4248 |
| 26 Mar. (85) . . | 4 Wed. . | 21 0 0 | 4 Mar. (63) . . | 3 Tues. . | 27-8084 | 4249 |
| 26 Mar. (86) . . | 6 Fri. . | 3 12 30 | 22 Mar. (82) . . | 2 Mon. . | 62-4479 | 4250 |
| 26 Mar. (85) . . | 6 Sat. . | 9 25 0 | 12 Mar. (71) . . | 0 Sat. . | 276-7631 | 4251 |
| 26 Mar. (85) . . | 1 Sun. . | 15 37 30 | 1 Mar. (60) . . | 4 Wed. . | 152-4465 | 4252 |
| 26 Mar. (85) . . | 2 Mon. . | 21 50 0 | 20 Mar. (79) . . | 3 Tues. . | 187-0861 | 4253 |
| 26 Mar. (86) . . | 4 Wed. . | 4 2 30 | 8 Mar. (68) . . | 0 Sat. . | 62-7695 | 4254 |
| 26 Mar. (85) . . | 5 Thur. . | 10 15 0 | 26 Feb. (57) . . | 5 Thur. . | 277-0848 | 4255 |
| 26 Mar. (85) . . | 6 Fri. . | 16 27 30 | 17 Mar. (76) . . | 4 Wed. . | 311-7245 | 4256 |
| 26 Mar. (85) . . | 0 Sat. . | 22 40 0 | 6 Mar. (65) . . | 1 Sun. . | 187-4078 | 4257 |
| 26 Mar. (86) . . | 2 Mon. . | 4 52 30 | 24 Mar. (84) . . | 0 Sat. . | 222-0474 | 4258 |
| 26 Mar. (85) . . | 3 Tues. . | 11 5 0 | 13 Mar. (72) . . | 4 Wed. . | 98-1308 | 4259 |
| 26 Mar. (85) . . | 4 Wed. . | 17 17 30 | 3 Mar. (62) . . | 2 Mon. . | 312-0461 | 4260 |
| 26 Mar. (85) . . | 5 Thur. . | 23 30 0 | 21 Mar. (80) . . | 0 Sat. . | 8-0538 | 4261 |
| 26 Mar. (86) . . | 0 Sat. . | 5 42 30 | 10 Mar. (70) . . | 5 Thur. . | 222-3691 | 4262 |
| 26 Mar. (85) . . | 1 Sun. . | 11 55 0 | 27 Feb. (58) . . | 2 Mon. . | 98-4525 | 4263 |
| 26 Mar. (85) . . | 2 Mon. . | 18 7 30 | 18 Mar. (77) . . | 1 Sun. . | 132-6822 | 4264 |
| 27 Mar. (86) . . | 4 Wed. . | 0 20 0 | 7 Mar. (66) . . | 5 Thur. . | 8-3755 | 4265 |
| 26 Mar. (86) . . | 5 Thur. . | 6 32 30 | 25 Mar. (85) . . | 4 Wed. . | 43-0151 | 4266 |
| 26 Mar. (85) . . | 6 Fri. . | 12 45 0 | 15 Mar. (74) . . | 2 Mon. . | 257-3504 | 4267 |
| 26 Mar. (85) . . | 0 Sat. . | 18 57 30 | 4 Mar. (63) . . | 6 Fri. . | 133-0138 | 4268 |
| 27 Mar. (86) . . | 2 Mon. . | 1 10 0 | 23 Mar. (82) . . | 5 Thur. . | 167-6454 | 4269 |
| 26 Mar. (85) . . | 3 Tues. . | 7 22 30 | 11 Mar. (71) . . | 2 Mon. . | 43-3368 | 4270 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4271 | 1092 | 1227 | 576 | 344-45 | 1169-70 | 23 Virōdhin . | 27 Vijaya . | 5 Śrāvapa . |
| 4272 | 1093 | 1228 | 577 | 345-46 | 1170-71 | 24 Vikṛita . | 28 Jaya . | ... |
| 4273 | 1094 | 1229 | 578 | 346-47 | 1171-72 | 25 Khara . | 29 Mantmatha . | ... |
| 4274 | 1095 | 1230 | 579 | 347-48 | *1172-73 | 26 Nandana . | 30 Durmukha . | 2 Vaiśākha . |
| 4275 | 1096 | 1231 | 580 | 348-49 | 1173-74 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4276 | 1097 | 1232 | 581 | 349-50 | 1174-75 | 28 Jaya . | 32 Vilamba . | 10 Pausa . |
| 4277 | 1098 | 1233 | 582 | 350-51 | 1175-76 | 29 Mantmatha . | 33 Vikārin . | ... |
| 4278 | 1099 | 1234 | 583 | 351-52 | *1176-77 | 30 Durmukha . | 34 Sārvarin . | ... |
| 4279 | 1100 | 1235 | 584 | 352-53 | 1177-78 | 31 Hēmalamba . | 35 Plava . | 7 Āsrina . |
| 4280 | 1101 | 1236 | 585 | 353-54 | 1178-79 | 32 Vilamba . | 36 Subhakṛit . | ... |
| 4281 | 1102 | 1237 | 586 | 354-55 | 1179-80 | 33 Vikārin . | 37 Sōbhana . | ... |
| 4282 | 1103 | 1238 | 587 | 355-56 | *1180-81 | 34 Sārvarin . | 38 Krōdhin . | 3 Jyēshtha . |
| 4283 | 1104 | 1239 | 588 | 356-57 | 1181-82 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4284 | 1105 | 1240 | 589 | 357-58 | 1182-83 | 36 Subhakṛit . | 40 Parābhava . | 12 Phālguna . |
| 4285 | 1106 | 1241 | 590 | 358-59 | 1183-84 | 37 Sōbhana . | 41 Plavaṅga . | ... |
| 4286 | 1107 | 1242 | 591 | 359-60 | *1184-85 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4287 | 1108 | 1243 | 592 | 360-61 | 1185-86 | 39 Viśvāvasu . | 43 Saumya . | 8 Kārttika . |
| 4288 | 1109 | 1244 | 593 | 361-62 | 1186-87 | 40 Parābhava . | 44 Sādhārapa . | ... |
| 4289 | 1110 | 1245 | 594 | 362-63 | 1187-88 | 41 Plavaṅga . | 45 Virōdhakṛit . | ... |
| 4290 | 1111 | 1246 | 595 | 363-64 | *1188-89 | 42 Kilaka . | 46 Paridhāvin . | 5 Śrāvapa . |
| 4291 | 1112 | 1247 | 596 | 364-65 | 1189-90 | 43 Saumya . | 47 Pramādin . | ... |
| 4292 | 1113 | 1248 | 597 | 365-66 | 1190-91 | 44 Sādhārapa . | 48 Ānanda . | ... |
| 4293 | 1114 | 1249 | 598 | 366-67 | 1191-92 | 45 Virōdhakṛit . | 49 Rākhaṣa . | 1 Chaitra . |
| 4294 | 1115 | 1250 | 599 | 367-68 | *1192-93 | 46 Paridhāvin . | 50 Ānala . | ... |
| 4295 | 1116 | 1251 | 600 | 368-69 | 1193-94 | 47 Pramādin . | 51 Pāgala . | 10 Pausa . |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 26 Mar. (85) . . . | 4 Wed. . . | 13 35 0 | 1 Mar. (60) . . . | 0 Sat. . . | 257-6521 | 4271 |
| 26 Mar. (85) . . . | 5 Thur. . . | 19 47 30 | 20 Mar. (79) . . . | 5 Fri. . . | 292-2917 | 4272 |
| 27 Mar. (86) . . . | 0 Sat. . . | 2 0 0 | 9 Mar. (68) . . . | 3 Tues. . . | 167-9751 | 4273 |
| 26 Mar. (86) . . . | 1 Sun. . . | 8 12 30 | 26 Feb. (57) . . . | 0 Sat. . . | 43-6684 | 4274 |
| 26 Mar. (85) . . . | 2 Mon. . . | 14 25 0 | 16 Mar. (75) . . . | 6 Fri. . . | 78-2981 | 4275 |
| 26 Mar. (85) . . . | 3 Tues. . . | 20 37 30 | 6 Mar. (65) . . . | 4 Wed. . . | 292-6133 | 4276 |
| 27 Mar. (86) . . . | 5 Thur. . . | 2 50 0 | 25 Mar. (84) . . . | 3 Tues. . . | 327-2528 | 4277 |
| 26 Mar. (86) . . . | 6 Fri. . . | 9 2 30 | 13 Mar. (73) . . . | 0 Sat. . . | 202-9372 | 4278 |
| 26 Mar. (85) . . . | 0 Sat. . . | 15 15 0 | 2 Mar. (61) . . . | 4 Wed. . . | 78-6196 | 4279 |
| 26 Mar. (85) . . . | 1 Sun. . . | 21 27 30 | 21 Mar. (80) . . . | 3 Tues. . . | 113-2593 | 4280 |
| 27 Mar. (86) . . . | 3 Tues. . . | 3 40 0 | 11 Mar. (70) . . . | 1 Sun. . . | 327-5745 | 4281 |
| 26 Mar. (86) . . . | 4 Wed. . . | 9 52 30 | 28 Feb. (59) . . . | 5 Thur. . . | 203-2579 | 4282 |
| 26 Mar. (85) . . . | 5 Thur. . . | 16 5 0 | 18 Mar. (77) . . . | 4 Wed. . . | 237-8975 | 4283 |
| 26 Mar. (85) . . . | 6 Fri. . . | 22 17 30 | 7 Mar. (66) . . . | 1 Sun. . . | 113-5809 | 4284 |
| 27 Mar. (86) . . . | 1 Sun. . . | 4 30 0 | 26 Mar. (85) . . . | 0 Sat. . . | 148-2205 | 4285 |
| 26 Mar. (86) . . . | 2 Mon. . . | 10 42 30 | 14 Mar. (74) . . . | 4 Wed. . . | 23-0639 | 4286 |
| 26 Mar. (85) . . . | 3 Tues. . . | 16 55 0 | 4 Mar. (63) . . . | 2 Mon. . . | 238-2192 | 4287 |
| 26 Mar. (85) . . . | 4 Wed. . . | 23 7 30 | 23 Mar. (82) . . . | 1 Sun. . . | 272-8588 | 4288 |
| 27 Mar. (86) . . . | 6 Fri. . . | 5 20 0 | 12 Mar. (71) . . . | 5 Thur. . . | 148-5422 | 4289 |
| 26 Mar. (86) . . . | 0 Sat. . . | 11 32 30 | 29 Feb. (60) . . . | 2 Mon. . . | 14-2256 | 4290 |
| 26 Mar. (85) . . . | 1 Sun. . . | 17 45 0 | 19 Mar. (78) . . . | 1 Sun. . . | 58-8452 | 4291 |
| 26 Mar. (85) . . . | 2 Mon. . . | 23 57 30 | 9 Mar. (68) . . . | 6 Fri. . . | 273-1805 | 4292 |
| 27 Mar. (86) . . . | 4 Wed. . . | 6 10 0 | 26 Feb. (57) . . . | 3 Tues. . . | 145-8638 | 4293 |
| 26 Mar. (86) . . . | 5 Thur. . . | 12 22 30 | 16 Mar. (76) . . . | 2 Mon. . . | 183-6035 | 4294 |
| 26 Mar. (85) . . . | 6 Fri. . . | 18 35 0 | 5 Mar. (64) . . . | 6 Fri. . . | 59-1868 | 4295 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Rafi. | Saka. | Chaitrīdi Vikrama. | Mēśādi solar year in Bengal. | Kollam. | A.D. | Jovian Sāmvaṣṭara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4296 | 1117 | 1252 | 601 | 369-70 | 1194-95 | 48 Ānanda | 52 Kālayukta | ... |
| 4297 | 1118 | 1253 | 602 | 370-71 | 1195-96 | 49 Rākhasa | 53 Siddhārthina | ... |
| 4298 | 1119 | 1254 | 603 | 371-72 | *1196-97 | 50 Anala | 54 Raudra | 6 Bhādrapada |
| 4299 | 1120 | 1255 | 604 | 372-73 | 1197-98 | 51 Piṅgala | 55 Durmati | ... |
| 4300 | 1121 | 1256 | 605 | 373-74 | 1198-99 | 52 Kālayukta | 56 Dundubhi | ... |
| 4301 | 1122 | 1257 | 606 | 374-75 | 1199-00 | 53 Siddhārthina | 57 Rudhīrōdgārin | 3 Jyēṣṭha |
| 4302 | 1123 | 1258 | 607 | 375-76 | *1200-01 | 54 Raudra | 58 Raktāksha | ... |
| 4303 | 1124 | 1259 | 608 | 376-77 | 1201-02 | 55 Durmati | 59 Krōdhana | 11 Māgha |
| 4304 | 1125 | 1260 | 609 | 377-78 | 1202-03 | 56 Dundubhi | 60 Kshaya | ... |
| 4305 | 1126 | 1261 | 610 | 378-79 | 1203-04 | 57 Rudhīrōdgārin | 1 Prabhava | ... |
| 4306 | 1127 | 1262 | 611 | 379-80 | *1204-05 | 58 Raktāksha | 2 Vibhava | 8 Kārttika |
| 4307 | 1128 | 1263 | 612 | 380-81 | 1205-06 | 59 Krōdhana | 3 Śukla | ... |
| 4308 | 1129 | 1264 | 613 | 381-82 | 1206-07 | 60 Kshaya | 4 Pramōda | ... |
| 4309 | 1130 | 1265 | 614 | 382-83 | 1207-08 | 1 Prabhava | 5 Prajāpati | 5 Śrāvapa |
| 4310 | 1131 | 1266 | 615 | 383-84 | *1208-09 | 2 Vibhava | 6 Aṅgiras | ... |
| 4311 | 1132 | 1267 | 616 | 384-85 | 1209-10 | 3 Śukla | 7 Śrinukha | ... |
| 4312 | 1133 | 1268 | 617 | 385-86 | 1210-11 | 4 Pramōda | 8 Bhāva | 1 Chaitra |
| 4313 | 1134 | 1269 | 618 | 386-87 | 1211-12 | 5 Prajāpati | 9 Yuvan | ... |
| 4314 | 1135 | 1270 | 619 | 387-88 | *1212-13 | 6 Aṅgiras | 10 Dhātṛi | 10 Pausa |
| 4315 | 1136 | 1271 | 620 | 388-89 | 1213-14 | 7 Śrinukha | 11 Iśvara | ... |
| 4316 | 1137 | 1272 | 621 | 389-90 | 1214-15 | 8 Bhāva | 12 Bahudhānya | ... |
| 4317 | 1138 | 1273 | 622 | 390-91 | 1215-16 | 9 Yuvan | 13 Pramādin | 6 Bhādrapada |
| 4318 | 1139 | 1274 | 623 | 391-92 | *1216-17 | 10 Dhātṛi | 14 Vikrama | ... |
| 4319 | 1140 | 1275 | 624 | 392-93 | 1217-18 | 11 Iśvara | 15 Vṛiṣa | ... |
| 4320 | 1141 | 1276 | 625 | 393-94 | 1218-19 | 12 Bahudhānya | 16 Chitrabhāna | 3 Jyēṣṭha |

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mīśha-sankrānti. | Day and month, A.D. | Week-day. | α (here= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 27 Mar. (86) . . . | 1 Sun. . . | 0 47 30 | 24 Mar. (83) . . . | 5 Thur. . . | 93-8264 | 4296 |
| 27 Mar. (86) . . . | 2 Mon. . . | 7 0 0 | 14 Mar. (73) . . . | 3 Tues. . . | 308-1417 | 4297 |
| 26 Mar. (86) . . . | 3 Tues. . . | 13 12 30 | 2 Mar. (62) . . . | 0 Sat. . . | 183-8251 | 4298 |
| 26 Mar. (85) . . . | 4 Wed. . . | 19 25 0 | 21 Mar. (80) . . . | 6 Fri. . . | 218-4647 | 4299 |
| 27 Mar. (86) . . . | 6 Fri. . . | 1 37 30 | 10 Mar. (69) . . . | 3 Tues. . . | 94-1481 | 4300 |
| 27 Mar. (86) . . . | 0 Sat. . . | 7 50 0 | 28 Feb. (59) . . . | 1 Sun. . . | 308-4634 | 4301 |
| 26 Mar. (86) . . . | 1 Sun. . . | 14 2 30 | 17 Mar. (77) . . . | 6 Fri. . . | 4-4711 | 4302 |
| 26 Mar. (85) . . . | 2 Mon. . . | 20 15 0 | 7 Mar. (66) . . . | 4 Wed. . . | 218-7864 | 4303 |
| 27 Mar. (86) . . . | 4 Wed. . . | 2 27 30 | 26 Mar. (85) . . . | 3 Tues. . . | 253-4359 | 4304 |
| 27 Mar. (86) . . . | 5 Thur. . . | 8 40 0 | 15 Mar. (74) . . . | 0 Sat. . . | 129-1094 | 4305 |
| 26 Mar. (86) . . . | 6 Fri. . . | 14 52 30 | 3 Mar. (63) . . . | 4 Wed. . . | 4-7927 | 4306 |
| 26 Mar. (85) . . . | 0 Sat. . . | 21 5 0 | 22 Mar. (81) . . . | 3 Tues. . . | 39-4324 | 4307 |
| 27 Mar. (86) . . . | 2 Mon. . . | 3 17 30 | 12 Mar. (71) . . . | 1 Sun. . . | 253-7477 | 4308 |
| 27 Mar. (86) . . . | 3 Tues. . . | 9 30 0 | 1 Mar. (60) . . . | 5 Thur. . . | 129-4311 | 4309 |
| 26 Mar. (86) . . . | 4 Wed. . . | 15 42 30 | 19 Mar. (79) . . . | 4 Wed. . . | 164-0707 | 4310 |
| 26 Mar. (85) . . . | 5 Thur. . . | 21 55 0 | 8 Mar. (67) . . . | 1 Sun. . . | 39-7546 | 4311 |
| 27 Mar. (86) . . . | 0 Sat. . . | 4 7 30 | 26 Feb. (57) . . . | 6 Fri. . . | 254-0693 | 4312 |
| 27 Mar. (86) . . . | 1 Sun. . . | 10 20 0 | 17 Mar. (76) . . . | 5 Thur. . . | 288-7089 | 4313 |
| 26 Mar. (86) . . . | 2 Mon. . . | 16 32 30 | 5 Mar. (65) . . . | 2 Mon. . . | 164-3923 | 4314 |
| 26 Mar. (85) . . . | 3 Tues. . . | 22 45 0 | 24 Mar. (83) . . . | 1 Sun. . . | 199-0310 | 4315 |
| 27 Mar. (86) . . . | 5 Thur. . . | 4 57 30 | 13 Mar. (72) . . . | 5 Thur. . . | 74-7162 | 4316 |
| 27 Mar. (86) . . . | 6 Fri. . . | 11 10 0 | 3 Mar. (62) . . . | 3 Tues. . . | 289-0306 | 4317 |
| 26 Mar. (86) . . . | 0 Sat. . . | 17 22 30 | 21 Mar. (81) . . . | 2 Mon. . . | 323-6762 | 4318 |
| 26 Mar. (85) . . . | 1 Sun. . . | 23 35 0 | 10 Mar. (69) . . . | 6 Fri. . . | 199-3635 | 4319 |
| 27 Mar. (86) . . . | 3 Tues. . . | 5 47 30 | 27 Feb. (58) . . . | 3 Tues. . . | 75-0369 | 4320 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4321 | 1142 | 1277 | 626 | 394-95 | 1219-20 | 13 Pramāthin . | 17 Subhānu . | ... |
| 4322 | 1143 | 1278 | 627 | 395-96 | *1220-21 | 14 Vikrama . | 18 Tārṇa . | 11 Māgha . |
| 4323 | 1144 | 1279 | 628 | 396-97 | 1221-22 | 15 Vyāsa . | 19 Pārthiva . | ... |
| 4324 | 1145 | 1280 | 629 | 397-98 | 1222-23 | 16 Chitrabhānu . | 20 Vyāsa . | ... |
| 4325 | 1146 | 1281 | 630 | 398-99 | 1223-24 | 17 Subhānu . | 21 Sarvajit . | 8 Kārtika . |
| 4326 | 1147 | 1282 | 631 | 399-400 | *1224-25 | 18 Tārṇa . | 22 Sarvadhārin . | ... |
| 4327 | 1148 | 1283 | 632 | 400-01 | 1225-26 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4328 | 1149 | 1284 | 633 | 401-02 | 1226-27 | 20 Vyāsa . | 24 Vikṛita . | 4 Āshādha . |
| 4329 | 1150 | 1285 | 634 | 402-03 | 1227-28 | 21 Sarvajit . | 25 Khara . | ... |
| 4330 | 1151 | 1286 | 635 | 403-04 | *1228-29 | 22 Sarvadhārin . | 26 Nandana . | ... |
| 4331 | 1152 | 1287 | 636 | 404-05 | 1229-30 | 23 Virōdhin . | 27 Vijaya . | 1 Chaitra . |
| 4332 | 1153 | 1288 | 637 | 405-06 | 1230-31 | 24 Vikṛita . | 28 Jaya . | ... |
| 4333 | 1154 | 1289 | 638 | 406-07 | 1231-32 | 25 Khara . | 29 Manmatha . | 9 Mārgaśīra . |
| 4334 | 1155 | 1290 | 639 | 407-08 | *1232-33 | 26 Nandana . | 30 Durmukha . | ... |
| 4335 | 1156 | 1291 | 640 | 408-09 | 1233-34 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4336 | 1157 | 1292 | 641 | 409-10 | 1234-35 | 28 Jaya . | 32 Vilamba . | 6 Bhādrapada |
| 4337 | 1158 | 1293 | 642 | 410-11 | 1235-36 | 29 Manmatha . | 33 Vikārin . | ... |
| 4338 | 1159 | 1294 | 643 | 411-12 | *1236-37 | 30 Durmukha . | 34 Śārvarin . | ... |
| 4339 | 1160 | 1295 | 644 | 412-13 | 1237-38 | 31 Hēmalamba . | 35 Plava . | 2 Vaiśākha . |
| 4340 | 1161 | 1296 | 645 | 413-14 | 1238-39 | 32 Vilamba . | 36 Subhakṛit . | ... |
| 4341 | 1162 | 1297 | 646 | 414-15 | 1239-40 | 33 Vikārin . | 37 Śōbhana . | 11 Māgha . |
| 4342 | 1163 | 1298 | 647 | 415-16 | *1240-41 | 34 Śārvarin . | 38 Krōdhin . | ... |
| 4343 | 1164 | 1299 | 648 | 416-17 | 1241-42 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4344 | 1165 | 1300 | 649 | 417-18 | 1242-43 | 36 Subhakṛit . | 40 Parābhava . | 7 Āśvina . |
| 4345 | 1166 | 1301 | 650 | 418-19 | 1243-44 | 37 Śōbhana . | 41 Plavaṅga . | ... |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a (here = t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 27 Mar. (86) . . . | 4 Wed. . . | 12 0 0 | 18 Mar. (77) . . . | 2 Mon. . . | 100-6705 | 4321 |
| 26 Mar. (86) . . . | 5 Thur. . . | 18 12 30 | 7 Mar. (67) . . . | 0 Sat. . . | 323-9918 | 4322 |
| 27 Mar. (86) . . . | 0 Sat. . . | 0 25 0 | 25 Mar. (84) . . . | 5 Thur. . . | 19-9995 | 4323 |
| 27 Mar. (86) . . . | 1 Sun. . . | 6 37 30 | 15 Mar. (74) . . . | 3 Tues. . . | 234-3148 | 4324 |
| 27 Mar. (86) . . . | 2 Mon. . . | 12 50 0 | 4 Mar. (63) . . . | 0 Sat. . . | 109-9982 | 4325 |
| 26 Mar. (86) . . . | 3 Tues. . . | 19 2 30 | 22 Mar. (82) . . . | 6 Fri. . . | 144-6378 | 4326 |
| 27 Mar. (86) . . . | 5 Thur. . . | 1 15 0 | 11 Mar. (70) . . . | 3 Tues. . . | 20-3212 | 4327 |
| 27 Mar. (86) . . . | 6 Fri. . . | 7 27 30 | 1 Mar. (60) . . . | 1 Sun. . . | 234-6365 | 4328 |
| 27 Mar. (86) . . . | 0 Sat. . . | 13 40 0 | 20 Mar. (79) . . . | 0 Sat. . . | 269-2761 | 4329 |
| 26 Mar. (86) . . . | 1 Sun. . . | 19 52 30 | 8 Mar. (68) . . . | 4 Wed. . . | 144-9594 | 4330 |
| 27 Mar. (86) . . . | 3 Tues. . . | 2 5 0 | 25 Feb. (56) . . . | 1 Sun. . . | 20-6428 | 4331 |
| 27 Mar. (86) . . . | 4 Wed. . . | 8 17 30 | 16 Mar. (75) . . . | 0 Sat. . . | 55-2824 | 4332 |
| 27 Mar. (86) . . . | 5 Thur. . . | 14 30 0 | 6 Mar. (65) . . . | 5 Thur. . . | 269-5977 | 4333 |
| 26 Mar. (86) . . . | 6 Fri. . . | 20 42 30 | 24 Mar. (84) . . . | 4 Wed. . . | 304-2373 | 4334 |
| 27 Mar. (86) . . . | 1 Sun. . . | 2 55 0 | 13 Mar. (72) . . . | 1 Sun. . . | 170-9207 | 4335 |
| 27 Mar. (86) . . . | 2 Mon. . . | 9 7 30 | 2 Mar. (61) . . . | 5 Thur. . . | 55-6041 | 4336 |
| 27 Mar. (86) . . . | 3 Tues. . . | 15 20 0 | 21 Mar. (80) . . . | 4 Wed. . . | 90-2437 | 4337 |
| 26 Mar. (86) . . . | 4 Wed. . . | 21 32 30 | 10 Mar. (70) . . . | 2 Mon. . . | 304-5590 | 4338 |
| 27 Mar. (86) . . . | 6 Fri. . . | 3 45 0 | 27 Feb. (58) . . . | 6 Fri. . . | 180-2424 | 4339 |
| 27 Mar. (86) . . . | 0 Sat. . . | 9 57 30 | 18 Mar. (77) . . . | 5 Thur. . . | 214-8820 | 4340 |
| 27 Mar. (86) . . . | 1 Sun. . . | 16 10 0 | 7 Mar. (66) . . . | 2 Mon. . . | 90-5654 | 4341 |
| 26 Mar. (86) . . . | 2 Mon. . . | 22 22 30 | 25 Mar. (85) . . . | 1 Sun. . . | 125-2049 | 4342 |
| 27 Mar. (86) . . . | 4 Wed. . . | 4 35 0 | 14 Mar. (73) . . . | 5 Thur. . . | 0-8884 | 4343 |
| 27 Mar. (86) . . . | 5 Thur. . . | 10 47 30 | 4 Mar. (63) . . . | 3 Tues. . . | 215-2037 | 4344 |
| 27 Mar. (86) . . . | 6 Fri. . . | 17 0 0 | 23 Mar. (82) . . . | 2 Mon. . . | 249-8433 | 4345 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kalī. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4346 | 1167 | 1302 | 651 | 419-20 | *1244-45 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4347 | 1168 | 1303 | 652 | 420-21 | 1245-46 | 39 Viśvāvasa . | 43 Saumya† . | 4 Āshādha . |
| 4348 | 1169 | 1304 | 653 | 421-22 | 1246-47 | 40 Parābhava . | 45 Virōdhakrit . | ... |
| 4349 | 1170 | 1305 | 654 | 422-23 | 1247-48 | 41 Plavaṅga . | 46 Parīdhāvin . | ... |
| 4350 | 1171 | 1306 | 655 | 423-24 | *1248-49 | 42 Kilaka . | 47 Pramōdin . | 1 Chaitra . |
| 4351 | 1172 | 1307 | 656 | 424-25 | 1249-50 | 43 Saumya . | 48 Ānanda . | ... |
| 4352 | 1173 | 1308 | 657 | 425-26 | 1250-51 | 44 Sādhāraṇa . | 49 Rākṣasa . | 9 Mārgaśīra . |
| 4353 | 1174 | 1309 | 658 | 426-27 | 1251-52 | 45 Virōdhakrit . | 50 Anala . | ... |
| 4354 | 1175 | 1310 | 659 | 427-28 | *1252-53 | 46 Parīdhāvin . | 51 Piṅgala . | ... |
| 4355 | 1176 | 1311 | 660 | 428-29 | 1253-54 | 47 Pramōdin . | 52 Kālayukta . | 6 Bhādrapada . |
| 4356 | 1177 | 1312 | 661 | 429-30 | 1254-55 | 48 Ānanda . | 53 Siddhārthin . | ... |
| 4357 | 1178 | 1313 | 662 | 430-31 | 1255-56 | 49 Rākṣasa . | 54 Randra . | ... |
| 4358 | 1179 | 1314 | 663 | 431-32 | *1256-57 | 50 Anala . | 55 Dūrmati . | 2 Vaiśākha . |
| 4359 | 1180 | 1315 | 664 | 432-33 | 1257-58 | 51 Piṅgala . | 56 Dundubhi . | ... |
| 4360 | 1181 | 1316 | 665 | 433-34 | 1258-59 | 52 Kālayukta . | 57 Rudhīrōdgārin . | 11 Māgha . |
| 4361 | 1182 | 1317 | 666 | 434-35 | 1259-60 | 53 Siddhārthin . | 58 Raktākṣa . | ... |
| 4362 | 1183 | 1318 | 667 | 435-36 | *1260-61 | 54 Randra . | 59 Krōdhana . | ... |
| 4363 | 1184 | 1319 | 668 | 436-37 | 1261-62 | 55 Dūrmati . | 60 Kahaya . | 7 Ārdrā . |
| 4364 | 1185 | 1320 | 669 | 437-38 | 1262-63 | 56 Dundubhi . | 1 Prabhava . | ... |
| 4365 | 1186 | 1321 | 670 | 438-39 | 1263-64 | 57 Rudhīrōdgārin . | 2 Vibhava . | ... |
| 4366 | 1187 | 1322 | 671 | 439-40 | *1264-65 | 58 Raktākṣa . | 3 Śukla . | 4 Āshādha . |
| 4367 | 1188 | 1323 | 672 | 440-41 | 1265-66 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4368 | 1189 | 1324 | 673 | 441-42 | 1266-67 | 60 Kahaya . | 5 Prāyāpati . | 12 Phālguna . |
| 4369 | 1190 | 1325 | 674 | 442-43 | 1267-68 | 1 Prabhava . | 6 Āngīra . | ... |
| 4370 | 1191 | 1326 | 675 | 443-44 | 1268-69 | 2 Vibhava . | 7 Śrīmukha . | ... |

44 Sādhāraṇa was suppressed in the north by the mean system, but 45 Virōdhakrit by the true system. By the latter system the year A.D. 1246-47 was called in the north "Sādhāraṇa."

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Māha-saṁkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 26 Mar. (86) . . | 0 Sat. . | 23 12 30 | 11 Mar. (71) . | 6 Fri. . | 125-5263 | 4346 |
| 27 Mar. (86) . . | 2 Mon. . | 5 25 0 | 28 Feb. (59) . | 3 Tues. . | 1-2109 | 4347 |
| 27 Mar. (86) . . | 3 Tues. . | 11 37 30 | 19 Mar. (78) . | 2 Mon. . | 35-8196 | 4348 |
| 27 Mar. (86) . . | 4 Wed. . | 17 50 0 | 9 Mar. (68) . | 0 Sat. . | 250-1649 | 4349 |
| 27 Mar. (87) . . | 6 Fri. . | 0 2 30 | 26 Feb. (57) . | 4 Wed. . | 125-8482 | 4350 |
| 27 Mar. (86) . . | 0 Sat. . | 6 15 0 | 16 Mar. (75) . | 3 Tues. . | 160-4878 | 4351 |
| 27 Mar. (86) . . | 1 Sun. . | 12 27 30 | 5 Mar. (64) . | 0 Sat. . | 36-1712 | 4352 |
| 27 Mar. (86) . . | 2 Mon. . | 18 40 0 | 24 Mar. (83) . | 6 Fri. . | 70-8109 | 4353 |
| 27 Mar. (87) . . | 4 Wed. . | 0 52 30 | 13 Mar. (73) . | 4 Wed. . | 285-1262 | 4354 |
| 27 Mar. (86) . . | 5 Thur. . | 7 5 0 | 2 Mar. (61) . | 1 Sun. . | 160-8095 | 4355 |
| 27 Mar. (86) . . | 6 Fri. . | 13 17 30 | 21 Mar. (80) . | 0 Sat. . | 105-4451 | 4356 |
| 27 Mar. (86) . . | 0 Sat. . | 19 30 0 | 10 Mar. (69) . | 4 Wed. . | 71-1325 | 4357 |
| 27 Mar. (87) . . | 2 Mon. . | 1 42 30 | 28 Feb. (59) . | 2 Mon. . | 285-4478 | 4358 |
| 27 Mar. (86) . . | 3 Tues. . | 7 55 0 | 18 Mar. (77) . | 1 Sun. . | 320-0874 | 4359 |
| 27 Mar. (86) . . | 4 Wed. . | 14 7 30 | 7 Mar. (66) . | 5 Thur. . | 195-7708 | 4360 |
| 27 Mar. (86) . . | 5 Thur. . | 20 20 0 | 26 Mar. (85) . | 4 Wed. . | 256-4104 | 4361 |
| 27 Mar. (87) . . | 0 Sat. . | 2 32 30 | 14 Mar. (74) . | 1 Sun. . | 106-6938 | 4362 |
| 27 Mar. (86) . . | 1 Sun. . | 8 45 0 | 4 Mar. (63) . | 6 Fri. . | 326-4091 | 4363 |
| 27 Mar. (86) . . | 2 Mon. . | 14 57 30 | 22 Mar. (81) . | 4 Wed. . | 16-4168 | 4364 |
| 27 Mar. (86) . . | 3 Tues. . | 21 10 0 | 12 Mar. (71) . | 2 Mon. . | 230-7321 | 4365 |
| 27 Mar. (87) . . | 5 Thur. . | 3 22 30 | 29 Feb. (60) . | 6 Fri. . | 106-4165 | 4366 |
| 27 Mar. (86) . . | 6 Fri. . | 9 35 0 | 19 Mar. (78) . | 5 Thur. . | 141-0551 | 4367 |
| 27 Mar. (86) . . | 0 Sat. . | 15 47 30 | 8 Mar. (67) . | 2 Mon. . | 16-7384 | 4368 |
| 27 Mar. (86) . . | 1 Sun. . | 22 0 0 | 27 Mar. (86) . | 1 Sun. . | 51-3780 | 4369 |
| 27 Mar. (87) . . | 3 Tues. . | 4 12 30 | 16 Mar. (76) . | 6 Fri. . | 265-6934 | 4370 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4371 | 1192 | 1327 | 676 | 444-45 | 1269-70 | 3 Sukla . . | 8 Bhāva . . | 9 Mārgaśīra . |
| 4372 | 1193 | 1328 | 677 | 445-46 | 1270-71 | 4 Pramōda . . | 9 Yuvan . . | ... |
| 4373 | 1194 | 1329 | 678 | 446-47 | 1271-72 | 5 Prajāpati . . | 10 Dhātṛi . . | ... |
| 4374 | 1195 | 1330 | 679 | 447-48 | *1272-73 | 6 Aṅgiras . . | 11 Īśvara . . | 5 Śrāvaṇa . |
| 4375 | 1196 | 1331 | 680 | 448-49 | 1273-74 | 7 Śrīmukha . . | 12 Bahudhānya . | ... |
| 4376 | 1197 | 1332 | 681 | 449-50 | 1274-75 | 8 Bhāva . . | 13 Pramādin . . | ... |
| 4377 | 1198 | 1333 | 682 | 450-51 | 1275-76 | 9 Yuvan . . | 14 Vikrama . . | 2 Vaiśākha . |
| 4378 | 1199 | 1334 | 683 | 451-52 | *1276-77 | 10 Dhātṛi . . | 15 Vṛiṣha . . | ... |
| 4379 | 1200 | 1335 | 684 | 452-53 | 1277-78 | 11 Īśvara . . | 16 Chitrabhānu . | 10 Pausa |
| 4380 | 1201 | 1336 | 685 | 453-54 | 1278-79 | 12 Bahudhānya . | 17 Subhānu . . | ... |
| 4381 | 1202 | 1337 | 686 | 454-55 | 1279-80 | 13 Pramāthin . . | 18 Tārāṇa . . | ... |
| 4382 | 1203 | 1338 | 687 | 455-56 | *1280-81 | 14 Vikrama . . | 19 Pārthiva . . | 7 Āśvina . |
| 4383 | 1204 | 1339 | 688 | 456-57 | 1281-82 | 15 Vṛiṣha . . | 20 Vyaya . . | ... |
| 4384 | 1205 | 1340 | 689 | 457-58 | 1282-83 | 16 Chitrabhānu . | 21 Sarvajit . . | ... |
| 4385 | 1206 | 1341 | 690 | 458-59 | 1283-84 | 17 Subhānu . . | 22 Sarvadhārin . | 4 Āshāḍha . |
| 4386 | 1207 | 1342 | 691 | 459-60 | *1284-85 | 18 Tārāṇa . . | 23 Virōdhin . . | ... |
| 4387 | 1208 | 1343 | 692 | 460-61 | 1285-86 | 19 Pārthiva . . | 24 Vikṛita . . | 12 Phālguna . |
| 4388 | 1209 | 1344 | 693 | 461-62 | 1286-87 | 20 Vyaya . . | 25 Khara . . | ... |
| 4389 | 1210 | 1345 | 694 | 462-63 | 1287-88 | 21 Sarvajit . . | 26 Nandana . . | ... |
| 4390 | 1211 | 1346 | 695 | 463-64 | *1288-89 | 22 Sarvadhārin . | 27 Vijaya . . | 9 Mārgaśīra . |
| 4391 | 1212 | 1347 | 696 | 464-65 | 1289-90 | 23 Virōdhin . . | 28 Jaya . . | ... |
| 4392 | 1213 | 1348 | 697 | 465-66 | 1290-91 | 24 Vikṛita . . | 29 Manmatha . . | ... |
| 4393 | 1214 | 1349 | 698 | 466-67 | 1291-92 | 25 Khara . . | 30 Durmukha . . | 5 Śrāvaṇa . |
| 4394 | 1215 | 1350 | 699 | 467-68 | *1292-93 | 26 Nandana . . | 31 Hēmalamba . | ... |
| 4395 | 1216 | 1351 | 700 | 468-69 | 1293-94 | 27 Vijaya . . | 32 Vihamba . . | ... |

LXXVI—Contd.

1 Arya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-------------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 27 Mar. (86) . . | 4 Wed. . | 10 25 0 | 5 Mar. (64) . . | 3 Tues. . . | 141-3767 | 4371 |
| 27 Mar. (86) . . | 5 Thur. . | 16 37 30 | 24 Mar. (83) . . | 2 Mon. . | 176-0164 | 4372 |
| 27 Mar. (86) . . | 6 Fri. . | 22 50 0 | 13 Mar. (72) . . | 6 Fri. . | 51-6998 | 4373 |
| 27 Mar. (87) . . | 1 Sun. . | 5 2 30 | 2 Mar. (62) . . | 4 Wed. . | 266-0150 | 4374 |
| 27 Mar. (86) . . | 2 Mon. . | 11 15 0 | 21 Mar. (80) . . | 3 Tues. . | 300-6346 | 4375 |
| 27 Mar. (86) . . | 3 Tues. . | 17 27 30 | 10 Mar. (69) . . | 0 Sat. . | 176-3380 | 4376 |
| 27 Mar. (86) . . | 4 Wed. . | 23 40 0 | 27 Feb. (58) . . | 4 Wed. . | 52-0213 | 4377 |
| 27 Mar. (87) . . | 6 Fri. . | 5 52 30 | 17 Mar. (77) . . | 3 Tues. . | 86-6009 | 4378 |
| 27 Mar. (86) . . | 0 Sat. . | 12 5 0 | 7 Mar. (66) . . | 1 Sun. . | 300-9762 | 4379 |
| 27 Mar. (86) . . | 1 Sun. . | 18 17 30 | 25 Mar. (84) . . | 6 Fri. . | 9996-9840* | 4380 |
| 28 Mar. (87) . . | 3 Tues. . | 0 30 0 | 15 Mar. (74) . . | 4 Wed. . | 211-2992 | 4381 |
| 27 Mar. (87) . . | 4 Wed. . | 6 42 30 | 3 Mar. (63) . . | 1 Sun. . | 86-9826 | 4382 |
| 27 Mar. (86) . . | 5 Thur. . | 12 55 0 | 22 Mar. (81) . . | 0 Sat. . | 121-6222 | 4383 |
| 27 Mar. (86) . . | 6 Fri. . | 19 7 30 | 11 Mar. (70) . . | 4 Wed. . | 9997-3056* | 4384 |
| 28 Mar. (87) . . | 1 Sun. . | 1 20 0 | 1 Mar. (60) . . | 2 Mon. . | 211-6209 | 4385 |
| 27 Mar. (87) . . | 2 Mon. . | 7 32 30 | 19 Mar. (79) . . | 1 Sun. . | 246-2605 | 4386 |
| 27 Mar. (86) . . | 3 Tues. . | 13 45 0 | 8 Mar. (67) . . | 5 Thur. . | 121-9439 | 4387 |
| 27 Mar. (86) . . | 4 Wed. . | 19 37 30 | 23 Mar. (86) . . | 4 Wed. . | 156-5834 | 4388 |
| 28 Mar. (87) . . | 6 Fri. . | 2 10 0 | 16 Mar. (75) . . | 1 Sun. . | 32-2669 | 4389 |
| 27 Mar. (87) . . | 0 Sat. . | 8 22 30 | 5 Mar. (65) . . | 6 Fri. . | 246-5821 | 4390 |
| 27 Mar. (86) . . | 1 Sun. . | 14 35 0 | 24 Mar. (83) . . | 5 Thur. . | 281-2218 | 4391 |
| 27 Mar. (86) . . | 2 Mon. . | 20 47 30 | 13 Mar. (72) . . | 2 Mon. . | 156-9051 | 4392 |
| 28 Mar. (87) . . | 4 Wed. . | 3 0 0 | 2 Mar. (61) . . | 6 Fri. . | 32-5885 | 4393 |
| 27 Mar. (87) . . | 5 Thur. . | 9 12 30 | 20 Mar. (80) . . | 5 Thur. . | 67-2281 | 4394 |
| 27 Mar. (86) . . | 6 Fri. . | 15 25 0 | 10 Mar. (69) . . | 3 Tues. . | 281-5434 | 4395 |

* As a mean tithi Chaitra śukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year, was as given in cols. 19, 20.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|----------------------|--|
| Kali. | Saka. | Chaltrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4396 | 1217 | 1352 | 701 | 469-70 | 1294-95 | 28 Jaya . . | 33 Vikārin . . | 2 Vaiśākha . . |
| 4397 | 1218 | 1353 | 702 | 470-71 | 1295-96 | 29 Manmatha . . | 34 Śārvarin . . | ... |
| 4398 | 1219 | 1354 | 703 | 471-72 | *1296-97 | 30 Durmukha . . | 35 Plava . . | 10 Pausa . . |
| 4399 | 1220 | 1355 | 704 | 472-73 | 1297-98 | 31 Hāmālamba . . | 36 Subhakṛit . . | ... |
| 4400 | 1221 | 1356 | 705 | 473-74 | 1298-99 | 32 Vilamba . . | 37 Śobhana . . | ... |
| 4401 | 1222 | 1357 | 706 | 474-75 | 1299-1300 | 33 Vikārin . . | 38 Krōdhin . . | 7 Āvina . . |
| 4402 | 1223 | 1358 | 707 | 475-76 | *1300-01 | 34 Śārvarin . . | 39 Viśvāvasu . . | ... |
| 4403 | 1224 | 1359 | 708 | 476-77 | 1301-02 | 35 Plava . . | 40 Parābhava . . | ... |
| 4404 | 1225 | 1360 | 709 | 477-78 | 1302-03 | 36 Subhakṛit . . | 41 Plavaṅga . . | 3 Jyēṣṭha . . |
| 4405 | 1226 | 1361 | 710 | 478-79 | 1303-04 | 37 Śobhana . . | 42 Kilaka . . | ... |
| 4406 | 1227 | 1362 | 711 | 479-80 | *1304-05 | 38 Krōdhin . . | 43 Saumya . . | 12 Phālguna . . |
| 4407 | 1228 | 1363 | 712 | 480-81 | 1305-06 | 39 Viśvāvasu . . | 44 Sādhārāṇa . . | ... |
| 4408 | 1229 | 1364 | 713 | 481-82 | 1306-07 | 40 Parābhava . . | 45 Virōdhakṛit . . | ... |
| 4409 | 1230 | 1365 | 714 | 482-83 | 1307-08 | 41 Plavaṅga . . | 46 Paridhāvin . . | 8 Kārttika . . |
| 4410 | 1231 | 1366 | 715 | 483-84 | *1308-09 | 42 Kilaka . . | 47 Pramādin . . | ... |
| 4411 | 1232 | 1367 | 716 | 484-85 | 1309-10 | 43 Saumya . . | 48 Ānanda . . | ... |
| 4412 | 1233 | 1368 | 717 | 485-86 | 1310-11 | 44 Sādhārāṇa . . | 49 Rākshasa . . | 5 Śrāvaṇa . . |
| 4413 | 1234 | 1369 | 718 | 486-87 | 1311-12 | 45 Virōdhakṛit . . | 50 Anala . . | ... |
| 4414 | 1235 | 1370 | 719 | 487-88 | *1312-13 | 46 Paridhāvin . . | 51 Piṅgala . . | ... |
| 4415 | 1236 | 1371 | 720 | 488-89 | 1313-14 | 47 Pramādin . . | 52 Kālayukta . . | 1 Chaitra . . |
| 4416 | 1237 | 1372 | 721 | 489-90 | 1314-15 | 48 Ānanda . . | 53 Siddhārthin . . | ... |
| 4417 | 1238 | 1373 | 722 | 490-91 | 1315-16 | 49 Rākshasa . . | 54 Raudra . . | 10 Pausa . . |
| 4418 | 1239 | 1374 | 723 | 491-92 | *1316-17 | 50 Anala . . | 55 Durmati . . | ... |
| 4419 | 1240 | 1375 | 724 | 492-93 | 1317-18 | 51 Piṅgala . . | 56 Dundubhi . . | ... |
| 4420 | 1241 | 1376 | 725 | 493-94 | 1318-19 | 52 Kālayukta . . | 57 Rudhirōdgārin . . | 7 Āvina . . |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|--|-------------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUMMER OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | α there= t , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 27 Mar. (86) . . . | 0 Sat. . . | 21 37 40 | 27 Feb. (58) . . . | 0 Sat. . . | 157-2253 | 4396 |
| 28 Mar. (87) . . . | 2 Mon. . . | 3 50 0 | 18 Mar. (77) . . . | 6 Fri. . . | 191-8604 | 4397 |
| 27 Mar. (87) . . . | 3 Tues. . . | 10 2 30 | 6 Mar. (66) . . . | 3 Tues. . . | 67-5498 | 4398 |
| 27 Mar. (86) . . . | 4 Wed. . . | 16 15 0 | 25 Mar. (84) . . . | 2 Mon. . . | 102-1894 | 4399 |
| 27 Mar. (86) . . . | 5 Thur. . . | 22 27 30 | 15 Mar. (74) . . . | 0 Sat. . . | 316-5047 | 4400 |
| 28 Mar. (87) . . . | 0 Sat. . . | 4 40 0 | 4 Mar. (63) . . . | 4 Wed. . . | 192-1881 | 4401 |
| 27 Mar. (87) . . . | 1 Sun. . . | 10 52 30 | 22 Mar. (82) . . . | 3 Tues. . . | 226-8277 | 4402 |
| 27 Mar. (86) . . . | 2 Mon. . . | 17 5 0 | 11 Mar. (70) . . . | 0 Sat. . . | 102-5111 | 4403 |
| 27 Mar. (86) . . . | 3 Tues. . . | 23 17 30 | 1 Mar. (60) . . . | 5 Thur. . . | 316-8264 | 4404 |
| 28 Mar. (87) . . . | 5 Thur. . . | 5 30 0 | 19 Mar. (78) . . . | 3 Tues. . . | 15-8341 | 4405 |
| 27 Mar. (87) . . . | 6 Fri. . . | 11 42 30 | 8 Mar. (68) . . . | 1 Sun. . . | 227-1494 | 4406 |
| 27 Mar. (86) . . . | 0 Sat. . . | 17 55 0 | 27 Mar. (86) . . . | 0 Sat. . . | 261-7889 | 4407 |
| 28 Mar. (87) . . . | 2 Mon. . . | 0 7 30 | 16 Mar. (75) . . . | 4 Wed. . . | 137-4728 | 4408 |
| 28 Mar. (87) . . . | 3 Tues. . . | 6 20 0 | 5 Mar. (64) . . . | 1 Sun. . . | 13-1558 | 4409 |
| 27 Mar. (87) . . . | 4 Wed. . . | 12 32 30 | 23 Mar. (83) . . . | 0 Sat. . . | 47-7954 | 4410 |
| 27 Mar. (86) . . . | 5 Thur. . . | 18 45 0 | 13 Mar. (72) . . . | 5 Thur. . . | 262-1106 | 4411 |
| 28 Mar. (87) . . . | 0 Sat. . . | 0 57 30 | 2 Mar. (61) . . . | 2 Mon. . . | 137-7940 | 4412 |
| 28 Mar. (87) . . . | 1 Sun. . . | 7 10 0 | 21 Mar. (80) . . . | 1 Sun. . . | 172-4337 | 4413 |
| 27 Mar. (87) . . . | 2 Mon. . . | 13 22 30 | 9 Mar. (69) . . . | 5 Thur. . . | 48-1170 | 4414 |
| 27 Mar. (86) . . . | 3 Tues. . . | 19 35 0 | 27 Feb. (58) . . . | 3 Tues. . . | 262-4322 | 4415 |
| 28 Mar. (87) . . . | 5 Thur. . . | 1 47 30 | 18 Mar. (77) . . . | 2 Mon. . . | 297-5719 | 4416 |
| 28 Mar. (87) . . . | 6 Fri. . . | 8 0 0 | 7 Mar. (66) . . . | 6 Fri. . . | 172-7565 | 4417 |
| 27 Mar. (87) . . . | 0 Sat. . . | 14 12 30 | 25 Mar. (85) . . . | 5 Thur. . . | 207-3949 | 4418 |
| 27 Mar. (86) . . . | 1 Sun. . . | 20 25 0 | 14 Mar. (73) . . . | 2 Mon. . . | 83-6782 | 4419 |
| 28 Mar. (87) . . . | 3 Tues. . . | 2 37 30 | 4 Mar. (63) . . . | 0 Sat. . . | 297-3935 | 4420 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikramā. | Mēshādi solar year in Bengal. | Kollam. | A.D. | Jovian Samvatsara. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4421 | 1242 | 1377 | 726 | 494-95 | 1319-20 | 53 Siddhārthin . | 58 Raktāksha . | ... |
| 4422 | 1243 | 1378 | 727 | 495-96 | *1320-21 | 54 Raudra . | 59 Krōdhana . | ... |
| 4423 | 1244 | 1379 | 728 | 496-97 | 1321-22 | 55 Dumatī . | 60 Kshaya . | 3 Jyēshtha . |
| 4424 | 1245 | 1380 | 729 | 497-98 | 1322-23 | 56 Dandabhi . | 1 Prabhava . | ... |
| 4425 | 1246 | 1381 | 730 | 498-99 | 1323-24 | 57 Rudhīrōdgārin . | 2 Vibhava . | 12 Phālguna |
| 4426 | 1247 | 1382 | 731 | 499-00 | *1324-25 | 58 Raktāksha . | 3 Śukla . | ... |
| 4427 | 1248 | 1383 | 732 | 500-01 | 1325-26 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4428 | 1249 | 1384 | 733 | 501-02 | 1326-27 | 60 Kshaya . | 5 Prajāpati . | 8 Kārtika . |
| 4429 | 1250 | 1385 | 734 | 502-03 | 1327-28 | 1 Prabhava . | 6 Aṅgira . | ... |
| 4430 | 1251 | 1386 | 735 | 503-04 | *1328-29 | 2 Vibhava . | 7 Śrimukha . | ... |
| 4431 | 1252 | 1387 | 736 | 504-05 | 1329-30 | 3 Śukla . | 8 Bhāva . | 5 Śrāvāṇa . |
| 4432 | 1253 | 1388 | 737 | 505-06 | 1330-31 | 4 Pramōda . | 9 Yuvan† . | ... |
| 4433 | 1254 | 1389 | 738 | 506-07 | 1331-32 | 5 Prajāpati . | 11 Iśvara . | ... |
| 4434 | 1255 | 1390 | 739 | 507-08 | *1332-33 | 6 Aṅgira . | 12 Bahudhānya . | 1 Chaitra . |
| 4435 | 1256 | 1391 | 740 | 508-09 | 1333-34 | 7 Śrimukha . | 13 Pramōda . | ... |
| 4436 | 1257 | 1392 | 741 | 509-10 | 1334-35 | 8 Bhāva . | 14 Vikrama . | 10 Pausa . |
| 4437 | 1258 | 1393 | 742 | 510-11 | 1335-36 | 9 Yuvan . | 15 Vṛiṣha . | ... |
| 4438 | 1259 | 1394 | 743 | 511-12 | *1336-37 | 10 Dhātṛi . | 16 Chitrabhānu . | ... |
| 4439 | 1260 | 1395 | 744 | 512-13 | 1337-38 | 11 Iśvara . | 17 Subhānu . | 6 Bhādrapada |
| 4440 | 1261 | 1396 | 745 | 513-14 | 1338-39 | 12 Bahudhānya . | 18 Tāra . | ... |
| 4441 | 1262 | 1397 | 746 | 514-15 | 1339-40 | 13 Pramāthī . | 19 Pārthiva . | ... |
| 4442 | 1263 | 1398 | 747 | 515-16 | *1340-41 | 14 Vikrama . | 20 Vyava . | 3 Jyēshtha . |
| 4443 | 1264 | 1399 | 748 | 516-17 | 1341-42 | 15 Vṛiṣha . | 21 Sarvajit . | ... |
| 4444 | 1265 | 1400 | 749 | 517-18 | 1342-43 | 16 Chitrabhānu . | 22 Sarvadhārin . | 11 Māgha . |
| 4445 | 1266 | 1401 | 750 | 518-19 | 1343-44 | 17 Subhānu . | 23 Vṛōdhio . | ... |

† 10 Dhātṛi was suppressed in the north by the mean system, but 11 Iśvara by the true system. The year A.L. 1331-32 was by the latter system called "10 Dhātṛi" in the north.

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēśha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 25 | |
| | | H. M. S. | | | | |
| 28 Mar. (87) . . . | 4 Wed. . . | 8 50 0 | 23 Mar. (82) . . . | 6 Fri. . . | 332-0331 | 4421 |
| 27 Mar. (87) . . . | 5 Thur. . . | 15 2 30 | 11 Mar. (71) . . . | 3 Tues. . . | 207-7165 | 4422 |
| 27 Mar. (86) . . . | 6 Fri. . . | 21 15 0 | 28 Feb. (59) . . . | 0 Sat. . . | 83-3900 | 4423 |
| 28 Mar. (87) . . . | 1 Sun. . . | 3 27 30 | 19 Mar. (78) . . . | 6 Fri. . . | 118-0305 | 4424 |
| 28 Mar. (87) . . . | 2 Mon. . . | 9 40 0 | 9 Mar. (68) . . . | 4 Wed. . . | 332-3547 | 4425 |
| 27 Mar. (87) . . . | 3 Tues. . . | 15 52 30 | 26 Mar. (86) . . . | 2 Mon. . . | 28-3624 | 4426 |
| 27 Mar. (86) . . . | 4 Wed. . . | 22 5 0 | 16 Mar. (75) . . . | 0 Sat. . . | 242-6778 | 4427 |
| 28 Mar. (87) . . . | 6 Fri. . . | 4 17 30 | 5 Mar. (64) . . . | 4 Wed. . . | 118-3612 | 4428 |
| 28 Mar. (87) . . . | 0 Sat. . . | 10 30 0 | 24 Mar. (83) . . . | 3 Tues. . . | 153-0008 | 4429 |
| 27 Mar. (87) . . . | 1 Sun. . . | 16 42 30 | 12 Mar. (72) . . . | 0 Sat. . . | 28-7841 | 4430 |
| 27 Mar. (86) . . . | 2 Mon. . . | 22 55 0 | 2 Mar. (61) . . . | 5 Thur. . . | 242-9995 | 4431 |
| 28 Mar. (87) . . . | 4 Wed. . . | 5 7 30 | 21 Mar. (80) . . . | 4 Wed. . . | 277-6391 | 4432 |
| 28 Mar. (87) . . . | 5 Thur. . . | 11 20 0 | 10 Mar. (60) . . . | 1 Sun. . . | 153-3224 | 4433 |
| 27 Mar. (87) . . . | 6 Fri. . . | 17 32 30 | 27 Feb. (58) . . . | 5 Tues. . . | 23-0006 | 4434 |
| 27 Mar. (86) . . . | 0 Sat. . . | 23 45 0 | 17 Mar. (76) . . . | 4 Wed. . . | 63-6455 | 4435 |
| 28 Mar. (87) . . . | 2 Mon. . . | 5 57 30 | 7 Mar. (66) . . . | 2 Mon. . . | 277-9607 | 4436 |
| 28 Mar. (87) . . . | 3 Tues. . . | 12 10 0 | 25 Mar. (85) . . . | 1 Sun. . . | 312-6003 | 4437 |
| 27 Mar. (87) . . . | 4 Wed. . . | 18 22 30 | 14 Mar. (74) . . . | 5 Thur. . . | 188-2837 | 4438 |
| 28 Mar. (87) . . . | 6 Fri. . . | 0 35 0 | 3 Mar. (62) . . . | 2 Mon. . . | 63-9689 | 4439 |
| 28 Mar. (87) . . . | 0 Sat. . . | 6 47 30 | 22 Mar. (81) . . . | 1 Sun. . . | 98-6067 | 4440 |
| 28 Mar. (87) . . . | 1 Sun. . . | 13 0 0 | 12 Mar. (71) . . . | 6 Fri. . . | 312-9231 | 4441 |
| 27 Mar. (87) . . . | 2 Mon. . . | 19 12 30 | 29 Feb. (60) . . . | 3 Tues. . . | 188-6054 | 4442 |
| 28 Mar. (87) . . . | 4 Wed. . . | 1 25 0 | 19 Mar. (75) . . . | 2 Mon. . . | 223-2350 | 4443 |
| 28 Mar. (87) . . . | 5 Thur. . . | 7 37 30 | 8 Mar. (67) . . . | 6 Fri. . . | 98-9284 | 4444 |
| 28 Mar. (87) . . . | 6 Fri. . . | 13 50 0 | 27 Mar. (86) . . . | 5 Thur. . . | 133-9679 | 4445 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali | Śaka. | Chaitradī Vikrama. | Moṣhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMYATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4446 | 1267 | 1402 | 751 | 519-20 | *1344-45 | 18 Tārāga . . | 24 Vikṛita . . | ... |
| 4447 | 1268 | 1403 | 752 | 520-21 | 1345-46 | 19 Pārthiva . . | 25 Khara . . | 8 Kārttika . . |
| 4448 | 1269 | 1404 | 753 | 521-22 | 1346-47 | 20 Vyaya . . | 26 Nandana . . | ... |
| 4449 | 1270 | 1405 | 754 | 522-23 | 1347-48 | 21 Sarvajit . . | 27 Vijaya . . | ... |
| 4450 | 1271 | 1406 | 755 | 523-24 | *1348-49 | 22 Sarvadhārin . . | 28 Jaya . . | 4 Āshāḍha . . |
| 4451 | 1272 | 1407 | 756 | 524-25 | 1349-50 | 23 Virōdhin . . | 29 Maṇmattha . . | ... |
| 4452 | 1273 | 1408 | 757 | 525-26 | 1350-51 | 24 Vikṛita . . | 30 Durmukha . . | ... |
| 4453 | 1274 | 1409 | 758 | 526-27 | 1351-52 | 25 Khara . . | 31 Hēmalamba . . | 1 Chaitra . . |
| 4454 | 1275 | 1410 | 759 | 527-28 | *1352-53 | 26 Nandana . . | 32 Vilamba . . | ... |
| 4455 | 1276 | 1411 | 760 | 528-29 | 1353-54 | 27 Vijaya . . | 33 Vikārin . . | 9 Mārgaśīra . . |
| 4456 | 1277 | 1412 | 761 | 529-30 | 1354-55 | 28 Jaya . . | 34 Śārvarin . . | ... |
| 4457 | 1278 | 1413 | 762 | 530-31 | 1355-56 | 29 Maṇmattha . . | 35 Plava . . | ... |
| 4458 | 1279 | 1414 | 763 | 531-32 | *1356-57 | 30 Durmukha . . | 36 Śubhakṛit . . | 6 Bhādrapada . . |
| 4459 | 1280 | 1415 | 764 | 532-33 | 1357-58 | 31 Hēmalamba . . | 37 Śibhana . . | ... |
| 4460 | 1281 | 1416 | 765 | 533-34 | 1358-59 | 32 Vilamba . . | 38 Krōdhin . . | ... |
| 4461 | 1282 | 1417 | 766 | 534-35 | 1359-60 | 33 Vikārin . . | 39 Viśvāvasu . . | 3 Jyēṣṭha . . |
| 4462 | 1283 | 1418 | 767 | 535-36 | *1360-61 | 34 Śārvarin . . | 40 Parābhava . . | ... |
| 4463 | 1284 | 1419 | 768 | 536-37 | 1361-62 | 35 Plava . . | 41 Plavaśga . . | 11 Māgha . . |
| 4464 | 1285 | 1420 | 769 | 537-38 | 1362-63 | 36 Śubhakṛit . . | 42 Kīlaka . . | ... |
| 4465 | 1286 | 1421 | 770 | 538-39 | 1363-64 | 37 Śōbhana . . | 43 Saumya . . | ... |
| 4466 | 1287 | 1422 | 771 | 539-40 | *1364-65 | 38 Krōdhin . . | 44 Sādhārāga . . | 8 Kārttika . . |
| 4467 | 1288 | 1423 | 772 | 540-41 | 1365-66 | 39 Viśvāvasu . . | 45 Virōdhakṛit . . | ... |
| 4468 | 1289 | 1424 | 773 | 541-42 | 1366-67 | 40 Parābhava . . | 46 Paridhāvin . . | ... |
| 4469 | 1290 | 1425 | 774 | 542-43 | 1367-68 | 41 Plavaśga . . | 47 Pramādin . . | 4 Āshāḍha . . |
| 4470 | 1291 | 1426 | 775 | 543-44 | *1368-69 | 42 Kīlaka . . | 48 Ānanda . . | ... |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---------------------------------------|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti | Day and month, A.D. | Week-day. | a (here = l, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1' |
| | | H. M. S. | | | | |
| 27 Mar. (87) . | 0 Sat. . | 20 2 30 | 15 Mar. (75) . | 2 Mon. . | 9-2513 | 4446 |
| 28 Mar. (87) . | 2 Mon. . | 2 15 0 | 5 Mar. (64) . | 0 Sat. . | 223-5666 | 4447 |
| 28 Mar. (87) . | 3 Tues. . | 8 27 30 | 24 Mar. (83) . | 6 Fri. . | 258-2062 | 4448 |
| 28 Mar. (87) . | 4 Wed. . | 14 40 0 | 13 Mar. (72) . | 3 Tues. . | 133-8897 | 4449 |
| 27 Mar. (87) . | 5 Thur. . | 20 52 30 | 1 Mar. (61) . | 0 Sat. . | 9-5730 | 4450 |
| 28 Mar. (87) . | 0 Sat. . | 3 5 0 | 20 Mar. (79) . | 6 Fri. . | 44-2126 | 4451 |
| 28 Mar. (87) . | 1 Sun. . | 9 17 30 | 10 Mar. (69) . | 4 Wed. . | 258-5279 | 4452 |
| 28 Mar. (87) . | 2 Mon. . | 15 30 0 | 27 Feb. (58) . | 1 Sun. . | 134-2112 | 4453 |
| 27 Mar. (87) . | 3 Tues. . | 21 42 30 | 17 Mar. (77) . | 0 Sat. . | 168-8500 | 4454 |
| 28 Mar. (87) . | 5 Thur. . | 3 55 0 | 6 Mar. (65) . | 4 Wed. . | 44-5342 | 4455 |
| 28 Mar. (87) . | 6 Fri. . | 10 7 30 | 25 Mar. (84) . | 3 Tues. . | 79-1738 | 4456 |
| 28 Mar. (87) . | 0 Sat. . | 16 20 0 | 15 Mar. (74) . | 1 Sun. . | 293-4891 | 4457 |
| 27 Mar. (87) . | 1 Sun. . | 22 32 30 | 3 Mar. (68) . | 5 Thur. . | 169-1725 | 4458 |
| 28 Mar. (87) . | 3 Tues. . | 4 45 0 | 22 Mar. (81) . | 4 Wed. . | 203-8121 | 4459 |
| 28 Mar. (87) . | 4 Wed. . | 10 57 30 | 11 Mar. (70) . | 1 Sun. . | 79-4255 | 4460 |
| 28 Mar. (87) . | 5 Thur. . | 17 10 0 | 1 Mar. (60) . | 6 Fri. . | 293-8108 | 4461 |
| 27 Mar. (87) . | 6 Fri. . | 23 22 30 | 19 Mar. (79) . | 5 Thur. . | 328-4504 | 4462 |
| 28 Mar. (87) . | 1 Sun. . | 5 35 0 | 8 Mar. (67) . | 2 Mon. . | 204-1338 | 4463 |
| 28 Mar. (87) . | 2 Mon. . | 11 47 30 | 27 Mar. (86) . | 1 Sun. . | 238-7731 | 4464 |
| 28 Mar. (87) . | 3 Tues. . | 18 0 0 | 16 Mar. (75) . | 5 Thur. . | 114-4568 | 4465 |
| 28 Mar. (88) . | 5 Thur. . | 0 12 30 | 5 Mar. (65) . | 3 Tues. . | 328-7721 | 4466 |
| 28 Mar. (87) . | 6 Fri. . | 6 25 0 | 23 Mar. (82) . | 1 Sun. . | 24-7798 | 4467 |
| 28 Mar. (87) . | 0 Sat. . | 12 37 30 | 13 Mar. (72) . | 6 Fri. . | 239-0951 | 4468 |
| 28 Mar. (87) . | 1 Sun. . | 18 50 0 | 2 Mar. (61) . | 3 Tues. . | 114-7785 | 4469 |
| 28 Mar. (88) . | 2 Tues. . | 1 2 30 | 20 Mar. (80) . | 2 Mon. . | 149-4181 | 4470 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | Jovian Saṃvatsara. | | Mean Intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4471 | 1292 | 1427 | 776 | 544-45 | 1369-70 | 43 Saumya . | 49 Rākshasa . | ... |
| 4472 | 1293 | 1428 | 777 | 545-46 | 1370-71 | 44 Śādhārṣa . | 50 Anala . | 1 Chaitra . |
| 4473 | 1294 | 1429 | 778 | 546-47 | 1371-72 | 45 Virōdhakṛit . | 51 Piṅgala . | ... |
| 4474 | 1295 | 1430 | 779 | 547-48 | *1372-73 | 46 Paridhāvin . | 52 Kālayukta . | 9 Mārgaśira . |
| 4475 | 1296 | 1431 | 780 | 548-49 | 1373-74 | 47 Pramādin . | 53 Siddhārthin . | ... |
| 4476 | 1297 | 1432 | 781 | 549-50 | 1374-75 | 48 Ānanda . | 54 Raudra . | ... |
| 4477 | 1298 | 1433 | 782 | 550-51 | 1375-76 | 49 Rākshasa . | 55 Durmati . | 6 Bhādrapada |
| 4478 | 1299 | 1434 | 783 | 551-52 | *1376-77 | 50 Anala . | 56 Dundubhi . | ... |
| 4479 | 1300 | 1435 | 784 | 552-53 | 1377-78 | 51 Piṅgala . | 57 Rudhīrōdgārin . | ... |
| 4480 | 1301 | 1436 | 785 | 553-54 | 1378-79 | 52 Kālayukta . | 58 Raktāksha . | 2 Vaiśākha . |
| 4481 | 1302 | 1437 | 786 | 554-55 | 1379-80 | 53 Siddhārthin . | 59 Krōdhana . | ... |
| 4482 | 1303 | 1438 | 787 | 555-56 | *1380-81 | 54 Raudra . | 60 Kalyaṇa . | 11 Māgha . |
| 4483 | 1304 | 1439 | 788 | 556-57 | 1381-82 | 55 Durmati . | 1 Prabhava . | ... |
| 4484 | 1305 | 1440 | 789 | 557-58 | 1382-83 | 56 Dundubhi . | 2 Vibhava . | ... |
| 4485 | 1306 | 1441 | 790 | 558-59 | 1383-84 | 57 Rudhīrōdgārin . | 3 Śukla . | 7 Āśvina . |
| 4486 | 1307 | 1442 | 791 | 559-60 | *1384-85 | 58 Raktāksha . | 4 Pramōda . | ... |
| 4487 | 1308 | 1443 | 792 | 560-61 | 1385-86 | 59 Krōdhana . | 5 Prajāpati . | ... |
| 4488 | 1309 | 1444 | 793 | 561-62 | 1386-87 | 60 Kalyaṇa . | 6 Āngiras . | 4 Āshāḍha . |
| 4489 | 1310 | 1445 | 794 | 562-63 | 1387-88 | 1 Prabhava . | 7 Śrīmukha . | ... |
| 4490 | 1311 | 1446 | 795 | 563-64 | *1388-89 | 2 Vibhava . | 8 Bhāva . | 12 Phālguna . |
| 4491 | 1312 | 1447 | 796 | 564-65 | 1389-90 | 3 Śukla . | 9 Yuvra . | ... |
| 4492 | 1313 | 1448 | 797 | 565-66 | 1390-91 | 4 Pramōda . | 10 Dhātṛi . | ... |
| 4493 | 1314 | 1449 | 798 | 566-67 | 1391-92 | 5 Prajāpati . | 11 Ivara . | 9 Mārgaśira . |
| 4494 | 1315 | 1450 | 799 | 567-68 | *1392-93 | 6 Āngiras . | 12 Bahudhānya . | ... |
| 4495 | 1316 | 1451 | 800 | 568-69 | 1393-94 | 7 Śrīmukha . | 13 Pramādin . | ... |

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-samkrānti. | Day and month, A.D. | Week-day. | a (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 28 Mar. (87) . | 4 Wed. . | 7 15 0 | 9 Mar. (68) . | 6 Fri. . | 25-1013 | 4471 |
| 28 Mar. (87) . | 5 Thur. . | 13 27 30 | 27 Feb. (58) . | 4 Wed. . | 239-4167 | 4472 |
| 28 Mar. (87) . | 6 Fri. . | 19 40 0 | 18 Mar. (77) . | 3 Tues. . | 274-0564 | 4473 |
| 28 Mar. (88) . | 1 Sun. . | 1 52 30 | 6 Mar. (66) . | 0 Sat. . | 149-7397 | 4474 |
| 28 Mar. (87) . | 2 Mon. . | 8 5 0 | 25 Mar. (84) . | 6 Fri. . | 184-3794 | 4475 |
| 28 Mar. (87) . | 3 Tues. . | 14 17 30 | 14 Mar. (73) . | 3 Tues. . | 60-0027 | 4476 |
| 28 Mar. (87) . | 4 Wed. . | 20 30 0 | 4 Mar. (63) . | 1 Sun. . | 274-3779 | 4477 |
| 28 Mar. (88) . | 6 Fri. . | 2 42 30 | 22 Mar. (82) . | 0 Sat. . | 309-0176 | 4478 |
| 28 Mar. (87) . | 0 Sat. . | 8 55 0 | 11 Mar. (70) . | 4 Wed. . | 184-7000 | 4479 |
| 28 Mar. (87) . | 1 Sun. . | 15 7 30 | 28 Feb. (59) . | 1 Sun. . | 60-3844 | 4480 |
| 28 Mar. (87) . | 2 Mon. . | 21 20 0 | 19 Mar. (78) . | 0 Sat. . | 95-0230 | 4481 |
| 28 Mar. (88) . | 4 Wed. . | 3 32 30 | 8 Mar. (68) . | 5 Thur. . | 309-3392 | 4482 |
| 28 Mar. (87) . | 5 Thur. . | 9 45 0 | 26 Mar. (85) . | 3 Tues. . | 5-3460 | 4483 |
| 28 Mar. (87) . | 6 Fri. . | 15 57 30 | 16 Mar. (75) . | 1 Sun. . | 219-0622 | 4484 |
| 28 Mar. (87) . | 0 Sat. . | 22 10 0 | 5 Mar. (64) . | 5 Thur. . | 95-3456 | 4485 |
| 28 Mar. (88) . | 2 Mon. . | 4 22 30 | 23 Mar. (83) . | 4 Wed. . | 129-9852 | 4486 |
| 28 Mar. (87) . | 3 Tues. . | 10 35 0 | 12 Mar. (71) . | 1 Sun. . | 5-0686 | 4487 |
| 28 Mar. (87) . | 4 Wed. . | 16 47 30 | 2 Mar. (61) . | 6 Fri. . | 219-9839 | 4488 |
| 28 Mar. (87) . | 5 Thur. . | 23 0 0 | 21 Mar. (80) . | 5 Thur. . | 254-6233 | 4489 |
| 28 Mar. (88) . | 0 Sat. . | 5 12 30 | 9 Mar. (69) . | 2 Mon. . | 130-3060 | 4490 |
| 28 Mar. (87) . | 1 Sun. . | 11 25 0 | 28 Mar. (87) . | 1 Sun. . | 164-9404 | 4491 |
| 28 Mar. (87) . | 2 Mon. . | 17 37 30 | 17 Mar. (76) . | 5 Thur. . | 40-6298 | 4492 |
| 28 Mar. (87) . | 3 Tues. . | 23 50 0 | 7 Mar. (66) . | 3 Tues. . | 254-9451 | 4493 |
| 28 Mar. (88) . | 5 Thur. . | 6 2 30 | 25 Mar. (85) . | 2 Mon. . | 289-5848 | 4494 |
| 28 Mar. (87) . | 6 Fri. . | 12 15 0 | 14 Mar. (73) . | 6 Fri. . | 165-2681 | 4495 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean Intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4496 | 1317 | 1452 | 801 | 569.70 | 1394.95 | 8 Bhāva . . | 14 Vikrama . . | 6 Bhādrapada |
| 4497 | 1318 | 1453 | 802 | 570.71 | 1395.96 | 9 Yuvan . . | 15 Vṛiṣha . . | ... |
| 4498 | 1319 | 1454 | 803 | 571.72 | *1396.97 | 10 Dhātṛi . . | 16 Chitrabhānu . | ... |
| 4499 | 1320 | 1455 | 804 | 572.73 | 1397.98 | 11 Īvara . . | 17 Subhānu . | 2 Vaiśākha . |
| 4500 | 1321 | 1456 | 805 | 573.74 | 1398.99 | 12 Bahudhānya . | 18 Tāraṇa . . | ... |
| 4501 | 1322 | 1457 | 806 | 574.75 | 1399.00 | 13 Pramāthin . | 19 Pārthiva . | 11 Māgha . |
| 4502 | 1323 | 1458 | 807 | 575.76 | *1400.01 | 14 Vikrama . | 20 Vyaya . . | ... |

LXXVI—*Contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|---|------------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali year. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here= <i>t</i> , the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| 28 Mar. (87) . . | 0 Sat. . | H. M. S. 18 27 30 | 3 Mar. (62) . . | 3 Tues. . | 40-9515 | 4496 |
| 29 Mar. (88) . . | 2 Mon. . | 0 40 0 | 22 Mar. (81) . . | 2 Mon. . | 76-5912 | 4497 |
| 28 Mar. (88) . . | 3 Tues. . | 0 52 30 | 11 Mar. (71) . . | 0 Sat. . | 280-0064 | 4498 |
| 28 Mar. (87) . . | 4 Wed. . | 13 5 0 | 28 Feb. (59) . . | 4 Wed. . | 165-5822 | 4499 |
| 28 Mar. (87) . . | 5 Thur. . | 19 17 30 | 19 Mar. (78) . . | 3 Tues. . | 200-2294 | 4500 |
| 29 Mar. (88) . . | 0 Sat. . | 1 30 0 | 8 Mar. (67) . . | 0 Sat. . | 75-9127 | 4501 |
| 28 Mar. (88) . . | 1 Sun. . | 7 42 30 | 26 Mar. (86) . . | 6 Fri. . | 110-5525 | 4502 |

TABLE LXXVII.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE FIRST ARYA SIDDHĀNTA, WITH INCREASE OF "a" AT EACH SAMKRĀNTI.

| Mean luni-solar month, ending after the second of the two solar samkrāntis connected with it. | At the mean solar samkrāntis. | Collective duration in time and collective increase of "a" from mean Mēsha-samkrānti to the several samkrāntis. | | | |
|---|------------------------------------|---|-----------|-----------|------------|
| | | Day. | Week-day. | H. M. S. | a |
| 1 | 2 | 3 | | | 4 |
| 1. Chaitra . . . | { Mīna-samk. (of previous year). | | | | |
| | { Mēsha-samk. | 0 | 0 | 0 0 0 | 0 |
| 2. Vaiśākha . . . | { Vṛishabha-samk. . | 30 | (2) | 10 31 2½ | 307-3526 |
| 3. Jyēṣṭha . . . | { Mithuna-samk. . | 60 | (4) | 21 2 5 | 614-7052 |
| 4. Āshāḍha . . . | { Karṭika-samk. . | 91 | (0) | 7 33 7½ | 922-0579 |
| 5. Śrāvapa . . . | { Simha-samk. . | 121 | (2) | 18 4 10 | 1229-4105 |
| 6. Bhādrapada . . . | { Kanyā-samk. . | 152 | (5) | 4 35 12½ | 1536-7631 |
| 7. Āśvina . . . | { Tula-samk. . | 182 | (0) | 15 6 15 | 1844-1157 |
| 8. Kārttika . . . | { Vṛiśchika-samk. . | 213 | (3) | 1 37 17½ | 2151-4684 |
| 9. Mārgāśira . . . | { Dhanu-samk. . | 243 | (5) | 12 8 20 | 2458-8210 |
| 10. Pausa . . . | { Makara-samk. . | 273 | (0) | 22 39 22½ | 2766-1736 |
| 11. Māgha . . . | { Kumbha-samk. . | 304 | (3) | 9 10 25 | 3073-5262 |
| 12. Phālguna . . . | { Mīna-samk. . | 334 | (5) | 19 41 27½ | 3380-8789 |
| 1. Chaitra (of following year) | { Mēsha-samk. (of following year). | 365 | (1) | 6 12 30 | 3688-2315* |

The duration of each mean solar month is 30d. 10h. 31m. 2½s.; and this in time the mean moon increases her distance from mean sun, in measurement by 10,000ths of circle, by 307-352623726.

* More fully 3688-231484714.

TABLE LXXVIII.

VALUE OF $a (=t)$ AT BEGINNING OF CENTURIES OF THE KALIYUGA, ACCORDING TO THE FIRST ĀRYA SIDDHANTA MEAN SYSTEM.

The value of " a " to be added for beginning of odd years of centuries is given in Table LXXIII above. W.-D.=Week-day.

| Century K. Y. | W.-D. | $a (=t)$. |
|------------------|-------|------------|
| 36 | 1 | 7715-3525 |
| 37 | 1 | 6583-1816 |
| 38 | 0 | 5112-3787 |
| 39 | 0 | 3980-2078 |
| 40 | 0 | 2848-0369 |
| 41 | 0 | 1715-8659 |
| 42 | 0 | 583-6950 |
| 43 | 0 | 9451-5240 |
| 44 | 0 | 8319-3531 |
| 45 | 0 | 7187-1822 |
| 46 | 5 | 5716-3793 |
| 47 | 5 | 4584-2084 |
| 48 | 5 | 3452-0375 |

N.B.—These values of " a " agree generally with Professor Jacobi's values (*Epig. Ind. XI, 164*), but the values heretated for the beginnings of centuries 38 to 42 are for mean sunrise on Saturdays, while his are for mean sunrise on the following Sundays.

TABLE LXXIX.

MEAN SUNRISE VALUES OF " a " (DISTANCE OF MEAN MOON FROM MEAN SUN), IN 10,000THS OF CIRCLE, FOR A MONTH PREVIOUS TO THE DAY OF MEAN MĒSHA-SAMKRĀNTI.

W. D.=Week-day.

| Interval of days from mean Mēsha- samkrānti day. | W.-D. | a . (mean sunrise value). | Interval of days from mean Mēsha- samkrānti day. | W.-D. | a . (mean sunrise value). |
|--|-------|--------------------------------------|--|-------|--------------------------------------|
| 31 | 4 | 9502-4119 | 15 | 6 | 4920-5219 |
| 30 | 5 | 9841-0438 | 14 | 0 | 5259-1538 |
| 29 | 6 | 179-6756 | 13 | 1 | 5597-7856 |
| 28 | 0 | 518-3075 | 12 | 2 | 5936-4175 |
| 27 | 1 | 856-9394 | 11 | 3 | 6275-0494 |
| 26 | 2 | 1195-5713 | 10 | 4 | 6613-6813 |
| 25 | 3 | 1534-2032 | 9 | 5 | 6952-3131 |
| 24 | 4 | 1872-8350 | 8 | 6 | 7290-9450 |
| 23 | 5 | 2211-4669 | 7 | 0 | 7628-5769 |
| 22 | 6 | 2550-0988 | 6 | 1 | 7968-2088 |
| 21 | 0 | 2888-7306 | 5 | 2 | 8306-8406 |
| 20 | 1 | 3227-3625 | 4 | 3 | 8645-4725 |
| 19 | 2 | 3565-9944 | 3 | 4 | 8984-1044 |
| 18 | 3 | 3904-6263 | 2 | 5 | 9322-7263 |
| 17 | 4 | 4243-2581 | 1 | 6 | 9661-3581 |
| 16 | 5 | 4581-8900 | 0 | 0 | 0 |

N.B.—The use of this Table is explained in example I.

TABLE LXXX.

THE SUN'S MEAN LONGITUDE DURING THE HINDU SOLAR YEAR, IN 10,000THS OF CIRCLE, ACCORDING TO THE FIRST ĀRYA SIDDHĀNTA, AT PERIODS OF 24 HOURS EACH, MEASURED FROM THE MOMENT OF MEAN MĒSHA-SAMKRĀNTI.

The same in degrees, etc., can be calculated by Table XLIV, above.

| 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. |
|--|-----------------------|-----------------|-----------------------|---|-----------------------|-----------------|-----------------------|
| 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| At moment of mean Mēśa samkrānti. | 0 | 42 | 1149-8700 | 87 | 2381-8736 | 127 | 3476-9879 |
| | | 43 | 1177-2479 | 88 | 2409-2514 | 128 | 3504-3657 |
| | | 44 | 1204-5257 | 89 | 2436-6293 | 129 | 3531-7436 |
| | | 45 | 1232-0036 | 90 | 2464-0071 | 130 | 3559-1214 |
| | | 46 | 1259-3814 | 91 | 2491-3850 | 131 | 3586-4993 |
| | | 47 | 1286-7593 | At moment of mean Kāṛṭika samkrānti. | 2500-0 | 132 | 3613-8772 |
| | | 48 | 1314-1371 | | | 133 | 3641-2550 |
| | | 49 | 1341-5150 | | | 134 | 3668-6329 |
| | | 50 | 1368-8929 | | | 135 | 3696-0107 |
| | | 51 | 1396-2707 | | | 136 | 3723-3886 |
| | | 52 | 1423-6486 | | | 137 | 3750-7664 |
| | | 53 | 1451-0264 | | | 138 | 3778-1443 |
| | | 54 | 1478-4043 | | | 139 | 3805-5222 |
| | | 55 | 1505-7821 | | | 140 | 3832-9000 |
| | | 56 | 1533-1600 | | | 141 | 3860-2779 |
| | | 57 | 1560-5379 | | | 142 | 3887-6557 |
| | | 58 | 1587-9157 | | | 143 | 3915-0336 |
| | | 59 | 1615-2936 | | | 144 | 3942-4114 |
| | | 60 | 1642-6714 | | | 145 | 3969-7893 |
| 61 | 1670-0493 | 146 | 3997-1672 | | | | |
| 62 | 1697-4271 | 147 | 4024-5450 | | | | |
| 63 | 1724-8050 | 148 | 4051-9229 | | | | |
| 64 | 1752-1829 | 149 | 4079-3007 | | | | |
| At moment of mean Mīthuna samkrānti. | 1666-6 | 65 | 1779-5607 | 150 | 4106-6786 | | |
| | | 66 | 1806-9386 | 151 | 4134-0564 | | |
| | | 67 | 1834-3164 | 152 | 4161-4343 | | |
| | | 68 | 1861-6943 | At moment of mean Kāṛṭika samkrānti. | 4166-6 | | |
| | | 69 | 1889-0721 | | | 153 | 4188-8122 |
| | | 70 | 1916-4500 | | | 154 | 4216-1900 |
| | | 71 | 1943-8279 | | | 155 | 4243-5679 |
| | | 72 | 1971-2057 | | | 156 | 4270-9457 |
| | | 73 | 1998-5836 | | | 157 | 4298-3236 |
| | | 74 | 2025-9614 | | | 158 | 4325-7014 |
| | | 75 | 2053-3393 | | | 159 | 4353-0793 |
| | | 76 | 2080-7171 | | | 160 | 4380-4572 |
| | | 77 | 2108-0950 | | | 161 | 4407-8350 |
| | | 78 | 2135-4729 | | | 162 | 4435-2129 |
| | | 79 | 2162-8507 | | | 163 | 4462-5907 |
| | | 80 | 2190-2286 | | | 164 | 4489-9686 |
| | | 81 | 2217-6064 | | | 165 | 4517-3464 |
| | | 82 | 2244-9843 | | | 166 | 4544-7243 |
| | | 83 | 2272-3621 | 167 | 4572-1022 | | |
| 84 | 2299-7400 | 168 | 4599-4800 | | | | |
| 85 | 2327-1179 | 169 | 4626-8579 | | | | |
| 86 | 2354-4957 | 170 | 4654-2357 | | | | |
| At moment of mean Vriśabha samkrānti. | 533-5 | 87 | 2381-8736 | 171 | 4681-6136 | | |
| | | 88 | 2409-2514 | | | | |
| | | 89 | 2436-6293 | | | | |
| | | 90 | 2464-0071 | | | | |
| | | 91 | 2491-3850 | | | | |
| | | 92 | 2518-7629 | | | | |
| | | 93 | 2546-1407 | | | | |
| | | 94 | 2573-5186 | | | | |
| | | 95 | 2600-8964 | | | | |
| | | 96 | 2628-2743 | | | | |
| | | 97 | 2655-6521 | | | | |
| | | 98 | 2683-0300 | | | | |
| | | 99 | 2710-4079 | | | | |
| | | 00 | 2737-7857 | | | | |
| | | 01 | 2765-1636 | | | | |
| | | 02 | 2792-5414 | | | | |
| | | 03 | 2819-9193 | | | | |
| | | 04 | 2847-2971 | | | | |
| | | 05 | 2874-6750 | | | | |
| 06 | 2902-0529 | | | | | | |
| 07 | 2929-4307 | | | | | | |
| 08 | 2956-8086 | | | | | | |
| 09 | 2984-1864 | | | | | | |
| 10 | 3011-5643 | | | | | | |
| 11 | 3038-9421 | | | | | | |
| 12 | 3066-3200 | | | | | | |
| 13 | 3093-6979 | | | | | | |
| 14 | 3121-0757 | | | | | | |
| 15 | 3148-4536 | | | | | | |
| 16 | 3175-8314 | | | | | | |
| 17 | 3203-2093 | | | | | | |
| 18 | 3230-5872 | | | | | | |
| 19 | 3257-9650 | | | | | | |
| 20 | 3285-3429 | | | | | | |
| 21 | 3312-7207 | | | | | | |
| 22 | 3340-0986 | | | | | | |
| 23 | 3367-4764 | | | | | | |
| 24 | 3394-8543 | | | | | | |
| 25 | 3422-2322 | | | | | | |
| 26 | 3449-6100 | | | | | | |

TABLE LXXX—Contd.

| 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. | 24-hour period. | Sun's mean longitude. |
|---|-----------------------|---|-----------------------|--|-----------------------|---|-----------------------|
| 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| 172 | 4708-9914 | 220 | 6023-1286 | 272 | 7440-7772 | 320 | 8760-9143 |
| 173 | 4736-3693 | 221 | 6050-5064 | 273 | 7474-1550 | 321 | 8788-2922 |
| 174 | 4763-7472 | 222 | 6077-8843 | At moment of mean Makara sankranti. | 7500-0 | 322 | 8815-6700 |
| 175 | 4791-1250 | 223 | 6105-2622 | | | 323 | 8843-0479 |
| 176 | 4818-5029 | 224 | 6132-6400 | | | 324 | 8870-4257 |
| 177 | 4845-8807 | 225 | 6160-0179 | | | 325 | 8897-8036 |
| 178 | 4873-2586 | 226 | 6187-3957 | | | 326 | 8925-1814 |
| 179 | 4900-6364 | 227 | 6214-7736 | | | 327 | 8952-5593 |
| 180 | 4928-0143 | 228 | 6242-1514 | | | 328 | 8979-9372 |
| 181 | 4955-3922 | 229 | 6269-5293 | | | 329 | 9007-3150 |
| 182 | 4982-7700 | 230 | 6296-9072 | | | 330 | 9034-6929 |
| At moment of mean Jyestha sankranti. | 5000-0 | 231 | 6324-2850 | 274 | 7501-5329 | 331 | 9062-0707 |
| | | 232 | 6351-6629 | 275 | 7528-9107 | 332 | 9089-4486 |
| | | 233 | 6379-0407 | 276 | 7556-2886 | 333 | 9116-8264 |
| | | 234 | 6406-4186 | 277 | 7583-6664 | 334 | 9144-2043 |
| | | 235 | 6433-7964 | 278 | 7611-0443 | At moment of mean Mina-sankranti. | 9166-6 |
| | | 236 | 6461-1743 | 279 | 7638-4222 | | |
| | | 237 | 6488-5522 | 280 | 7665-8000 | | |
| | | 238 | 6515-9300 | 281 | 7693-1779 | | |
| | | 239 | 6543-3079 | 282 | 7720-5557 | | |
| | | 240 | 6570-6857 | 283 | 7747-9336 | | |
| | | 241 | 6598-0636 | 284 | 7775-3114 | | |
| | | 242 | 6625-4414 | 285 | 7802-6893 | | |
| | | 243 | 6652-8193 | 286 | 7830-0672 | | |
| | | At moment of mean Dhanu sankranti. | 6666-6 | 287 | 7857-4450 | 335 | 9171-5822 |
| 183 | 5010-1479 | | | 288 | 7884-8229 | 336 | 9198-9600 |
| 184 | 5037-5257 | | | 289 | 7912-2007 | 337 | 9226-3379 |
| 185 | 5064-9036 | | | 290 | 7939-5786 | 338 | 9253-7157 |
| 186 | 5092-2814 | | | 291 | 7966-9564 | 339 | 9281-0936 |
| 187 | 5119-6593 | | | 292 | 7994-3343 | 340 | 9308-4715 |
| 188 | 5147-0372 | | | 293 | 8021-7122 | 341 | 9335-8493 |
| 189 | 5174-4150 | | | 294 | 8049-0900 | 342 | 9363-2272 |
| 190 | 5201-7929 | | | 295 | 8076-4679 | 343 | 9390-6050 |
| 191 | 5229-1707 | | | 296 | 8103-8457 | 344 | 9417-9829 |
| 192 | 5256-5486 | | | 297 | 8131-2236 | 345 | 9445-3607 |
| 193 | 5283-9264 | | | 298 | 8158-6014 | 346 | 9472-7386 |
| 194 | 5311-3043 | | | 299 | 8185-9793 | 347 | 9500-1165 |
| 195 | 5339-6822 | | | 300 | 8213-3572 | 348 | 9527-4943 |
| 196 | 5366-0600 | | | 301 | 8240-7350 | 349 | 9554-8722 |
| 197 | 5393-4379 | | | 302 | 8268-1129 | 350 | 9582-2500 |
| 198 | 5420-8157 | | | 303 | 8295-4907 | 351 | 9609-6279 |
| 199 | 5448-1936 | | | 304 | 8322-8686 | 352 | 9637-0057 |
| 200 | 5475-5714 | | | At moment of mean Kumbha sankranti. | 8333-3 | 353 | 9664-3836 |
| 201 | 5502-9493 | | | | | 354 | 9691-7615 |
| 202 | 5530-3272 | | | | | 355 | 9719-1393 |
| 203 | 5557-7050 | | | | | 356 | 9746-5172 |
| 204 | 5585-0829 | | | | | 357 | 9773-8950 |
| 205 | 5612-4607 | | | | | 358 | 9801-2729 |
| 206 | 5639-8386 | | | | | 359 | 9828-6507 |
| 207 | 5667-2164 | | | | | 360 | 9856-0286 |
| 208 | 5694-5943 | | | | | 361 | 9883-4065 |
| 209 | 5721-9722 | | | | | 362 | 9910-7843 |
| 210 | 5749-3500 | | | 305 | 8350-2464 | 363 | 9938-1622 |
| 211 | 5776-7279 | | | 306 | 8377-6243 | 364 | 9965-5400 |
| 212 | 5804-1057 | | | 307 | 8405-0022 | 365 | 9992-9179 |
| 213 | 5831-4836 | | | 308 | 8432-3800 | At moment of mean Mesha sankranti of following year | 10,000-0 |
| At moment of mean Vrischika sankranti. | 5833-3 | 261 | 7145-8207 | 309 | 8459-7579 | | |
| | | 262 | 7172-9986 | 310 | 8487-1357 | | |
| | | 263 | 7200-3764 | 311 | 8514-5136 | | |
| | | 264 | 7227-7543 | 312 | 8541-8914 | | |
| | | 265 | 7255-1322 | 313 | 8569-2693 | | |
| | | 266 | 7282-5100 | 314 | 8596-6472 | | |
| | | 267 | 7309-8879 | 315 | 8624-0250 | | |
| 214 | 5858-8614 | 268 | 7337-2657 | 316 | 8651-4029 | | |
| 215 | 5886-2393 | 269 | 7364-6436 | 317 | 8678-7807 | | |
| 216 | 5913-6172 | 270 | 7392-0214 | 318 | 8706-1586 | | |
| 217 | 5940-9950 | 271 | 7419-3993 | 319 | 8733-5364 | | |
| 218 | 5968-3729 | | | | | | |
| 219 | 5995-7507 | | | | | | |

TABLE LXXXI.

SUN'S MEAN LONGITUDE. INCREASE IN FRACTIONS OF DAY ACCORDING TO THE FIRST ARYA SIDDHĀNTA.

(For the same in degrees, etc., see above, Table XLIV.)

| INCREASE PER HOUR. | | INCREASE PER MINUTE. | | | | INCREASE PER SECOND. | | | |
|--------------------|-------------------------|----------------------|-------------------------|-----|-------------------------|----------------------|-------------------------|-----|-------------------------|
| No. | In 10,000ths of circle. | No. | In 10,000ths of circle. | No. | In 10,000ths of circle. | No. | In 10,000ths of circle. | No. | In 10,000ths of circle. |
| 1 | 1-1407 | 1 | 0-0190 | 31 | 0-5894 | 1 | 0-0003 | 31 | 0-0098 |
| 2 | 2-2815 | 2 | 0-0380 | 32 | 0-6084 | 2 | 0-0006 | 32 | 0-0101 |
| 3 | 3-4222 | 3 | 0-0570 | 33 | 0-6274 | 3 | 0-0010 | 33 | 0-0105 |
| 4 | 4-5630 | 4 | 0-0760 | 34 | 0-6464 | 4 | 0-0013 | 34 | 0-0108 |
| 5 | 5-7037 | 5 | 0-0951 | 35 | 0-6654 | 5 | 0-0016 | 35 | 0-0111 |
| 6 | 6-8445 | 6 | 0-1141 | 36 | 0-6844 | 6 | 0-0019 | 36 | 0-0114 |
| 7 | 7-9852 | 7 | 0-1331 | 37 | 0-7035 | 7 | 0-0022 | 37 | 0-0117 |
| 8 | 9-1260 | 8 | 0-1521 | 38 | 0-7225 | 8 | 0-0025 | 38 | 0-0120 |
| 9 | 10-2667 | 9 | 0-1711 | 39 | 0-7415 | 9 | 0-0029 | 39 | 0-0124 |
| 10 | 11-4074 | 10 | 0-1901 | 40 | 0-7605 | 10 | 0-0032 | 40 | 0-0127 |
| 11 | 12-5482 | 11 | 0-2091 | 41 | 0-7795 | 11 | 0-0035 | 41 | 0-0130 |
| 12 | 13-6889 | 12 | 0-2281 | 42 | 0-7985 | 12 | 0-0038 | 42 | 0-0133 |
| 13 | 14-8297 | 13 | 0-2472 | 43 | 0-8175 | 13 | 0-0041 | 43 | 0-0136 |
| 14 | 15-9704 | 14 | 0-2662 | 44 | 0-8365 | 14 | 0-0044 | 44 | 0-0139 |
| 15 | 17-1112 | 15 | 0-2852 | 45 | 0-8556 | 15 | 0-0048 | 45 | 0-0143 |
| 16 | 18-2519 | 16 | 0-3042 | 46 | 0-8746 | 16 | 0-0051 | 46 | 0-0146 |
| 17 | 19-3926 | 17 | 0-3232 | 47 | 0-8936 | 17 | 0-0054 | 47 | 0-0149 |
| 18 | 20-5334 | 18 | 0-3422 | 48 | 0-9126 | 18 | 0-0057 | 48 | 0-0152 |
| 19 | 21-6741 | 19 | 0-3612 | 49 | 0-9316 | 19 | 0-0060 | 49 | 0-0155 |
| 20 | 22-8149 | 20 | 0-3802 | 50 | 0-9506 | 20 | 0-0063 | 50 | 0-0158 |
| 21 | 23-9556 | 21 | 0-3993 | 51 | 0-9696 | 21 | 0-0067 | 51 | 0-0162 |
| 22 | 25-0964 | 22 | 0-4183 | 52 | 0-9886 | 22 | 0-0070 | 52 | 0-0165 |
| 23 | 26-2371 | 23 | 0-4373 | 53 | 1-0077 | 23 | 0-0073 | 53 | 0-0168 |
| | | 24 | 0-4563 | 54 | 1-0267 | 24 | 0-0076 | 54 | 0-0171 |
| | | 25 | 0-4753 | 55 | 1-0457 | 25 | 0-0079 | 55 | 0-0174 |
| | | 26 | 0-4943 | 56 | 1-0647 | 26 | 0-0082 | 56 | 0-0177 |
| | | 27 | 0-5133 | 57 | 1-0837 | 27 | 0-0086 | 57 | 0-0181 |
| | | 28 | 0-5323 | 58 | 1-1027 | 28 | 0-0089 | 58 | 0-0184 |
| | | 29 | 0-5514 | 59 | 1-1217 | 29 | 0-0092 | 59 | 0-0187 |
| | | 30 | 0-5704 | | | 30 | 0-0095 | | |

THE BRAHMA-SIDDHANTA OF BRAHMAGUPTA (A.D. 628).

WORKING TABLES FOR COMPUTATION OF ANCIENT DATES BY THE TRUE, OR APPARENT, MOTIONS OF SUN AND MOON.

311. In para. 257 of my article in the *Epigraphia Indica* (Vol. XIV, pp. 241f.) on "The true longitude of the sun in Hindu astronomy, the *Siddhānta-Śirōmaṇi*" and again in a later article (Vol. XV) on *The Siddhānta-Śirōmaṇi*, § 271 I discussed the question of the values assigned in the seventh century A.D. by Brahmagupta to the twenty-four base-sines of angles in the quadrant; and expressed the opinion that when, but not until, definite assurance was obtainable that the values stated in the only available copies of the *Brahma-Siddhānta*¹ were really those fixed by its author, working Tables framed according to its postulates might safely be prepared for the computation of ancient dates.

In response to my appeal Mr. G. R. Kaye (Curator, Board of Education, Simla) has been kind enough to assist me. He tells me that there can be no doubt but that the values given for the several base-sines in the edition of the *Brahma-Siddhānta* printed and published in Benares are correct, and that Brahmagupta certainly made his calculations with a radius (sin. 90°) of 3270', discarding that of 3438', which seemingly had been in use in India since the time of the Greeks.² Mr. Kaye went fully into the subject in a very learned article, "*Ancient Hindu Spherical Astronomy*," published in the *Journal of the Asiatic Society of Bengal* in 1919 (*New Series*, Vol. XV, No. 3), which contains (Table 8, p. 187) a list of the sine-values as determined by the authors of the *Paulīṣa*-, *Ārya*-, and *Brahma-Siddhāntas*. He points out that, when properly applied, the equations of the sun's and moon's centres obtained from the sine-values of Brahmagupta agree with those derived from the values assigned by the other authorities.

Accordingly I have prepared the Table of Brahmagupta's sines and resulting base-equations of the sun's centre (Table LXXXIX below); and a comparison between these and the equations of the *Siddhānta-Śirōmaṇi* (Table XLVII above and Prof. Jacobi's Tables, XXIV-B, *Epig. Ind.*, Vol. I) proves that there is only a very trifling difference whether we use Brahmagupta's, or the older—and later—sine-values. By the *Siddhānta-Śirōmaṇi*, with radius 3438', the sun's greatest equation, that of 90°, is 2° 10' 31", exact. By the *Brahma-Siddhānta*, with radius 3270', it is 2° 10' 31".19. We may therefore safely use Table LXXXIX (below)³ and Table LIX (above) for the sun's and moon's equations by the *Brahma-Siddhānta*.

312. The *Brahma-Siddhānta* was composed by Brahmagupta in A.D. 628 and is said to have been extensively used in some parts of India, its principal rival being the *Ārya-Siddhānta* of Āryabhaṭa, known in later years as the *Laghu-Ārya* to distinguish it from the *Mahā-Ārya-Siddhānta* of the tenth century. This last, called also the *Second Ārya-Siddhānta*, seems to have had no great following. The *Rāja-mṛgśāstra*, an astronomical work of A.D. 1042, introduced, according to the information available to the late Sankarā Bākrishna Dikshit some important changes into the system of Brahmagupta; but unfortunately no complete copy of it has yet been obtained, and the necessary particulars are not to be found in those fragments

¹ One MS. copy in the India Office, London, and the Benares printed edition.

² It would be interesting to learn his reason for the change. Later Indian astronomers reverted to the radius of 3438', sin. 90°=radius. With π (ratio of diam. to circumf.) = 3.14159, its accepted modern value, the radius = 3437.74967. According to the *Ārya*- and *Sūrya-Siddhāntas* it is taken as 3438'. Archimedes' ratio¹ was $\pi = 3.14285$. The *Sūrya-Siddhānta* alludes to a ratio $\pi = 1 : \sqrt{10}$, which works out to 3.16228. Brahmagupta's radius being 3270', his ratio must have been $\pi = 3.203$, which is quite different to any of these others.

³ Or Table XLVII (above), col. 9; also Professor Jacobi's Tables XXIV-A, XXIV-B (*Epig. Ind.*, Vol. I).

which have come to light. It is not possible therefore to frame any accurate Tables for calculation by the *Rāja-mṛigāṅka*, and we must rest satisfied with the assurance of Mr. S. B. Dikshit¹ that the *Siddhānta-Śirōmaṇi* is the same as the *Rāja-mṛigāṅka* in the matter of calculation of an almanack. Tables for use by the former have already been published by me, comprising the period A.D. 1100-1750 (*above*).

All the authorities appear to arrive at similar or almost similar results in their computation of the lunar tithis, when worked by the true or apparent motions of sun and moon; but, since they differ in their estimate of the position of the sun's apsis at a given date, they necessarily differ somewhat in their estimate of the moment in each year when the true sun reaches long. 0° , the moment, that is, of "true Mēsha-samkrānti." This difference leads to differences in the lengths of the true solar months, and consequently to differences in the intercalation and suppression of true lunar months; which differences, again, occasionally cause differences of a whole lunar month in the beginning of the luni-solar year and differences in the names of some of the lunar months therein.

But we are now better able to deal with these matters than before. Dates can be easily computed by the true motions of sun and moon according to the *Sūrya-Siddhānta* for the whole historical period from A.D. 300 to 1900 (*Indian Calendar*)²; according to the *Ārya-Siddhānta* from A.D. 900 to 1900 (*above*); according to the *Brahma-Siddhānta* (*the present paper*) from A.D. 600 to 1200; and according to the *Siddhānta-Śirōmaṇi*, *Rāja-mṛigāṅka* and other works of the time of Bhāskarāchārya from A.D. 1100 to 1200 (*above*); these periods comprising the outside limits of use.

And, as regards computation by the mean motions of sun and moon, which system is believed to have been in universal use down to about A.D. 1100, and perhaps in some places to a considerably later date, we now have Tables for work by the *Ārya-Siddhānta* from A.D. 500 to 1400 (*above*), and by the *Brahma-Siddhānta*, from A.D. 500 to 1400 (*below*).

All these Tables are framed on the same system, so as to enable calculation to be made as easily and rapidly as possible.

Elements of the Brahma-Siddhānta.

313. (i) The length of the mean solar sidereal year is $365\cdot2584375$ days, or $365^d\ 6^h\ 12^m\ 9^s$. The *Siddhānta-Śirōmaṇi* adhered to this estimate.

(ii) Brahmagupta's sines of angles of the quadrant differ from those of the other authorities. His sine of 90° , the radius, = 3270' instead of 3438'. His sine of $3^{\circ}\ 45' = 214'$ instead of 225'. The 24 base-sines are given in Table LXXXIX below.

(iii) The equations, however, which are based on these sine-values are practically the same as those of the *Siddhānta-Śirōmaṇi* (compare Table XLVII *above*, col. 9, and Table LXXXIX *below*). Tables LV, LVI, LIX (*above*) may be therefore used as well for the *Brahma-Siddhānta* as for the *Siddhānta-Śirōmaṇi*.

(iv) The greatest equation of the sun's centre, that of 90° , is, in 10,000ths of the circle, $60\cdot425925$. The greatest equation of the moon's centre is, in similar measurement, $139\cdot855101552$. The sum of the two is $200\cdot284027777$.

¹ *Indian Calendar*, p. 8.

² Also by the *Indian Chronology* of Dewan Bahadur L. D. Swamikannu Pillai, M.A., whose Tables are framed on different system.

(v) The epoch of the Kaliyuga era was mean sunrise, taken as 6 A.M., on Friday, 18 February, B.C. 3102, that moment being $0^h 0^m 0^s$ Lankā time. This was the moment of mean Mēsha-samkrānti, when the mean sun's centre reached long. 0° . True Mēsha-samkrānti, when the true sun's centre reached long. 0° , occurred on Tuesday, 15 February, B.C. 3102, at $19^h 52^m 21^s.5$ after mean sunrise at Lankā.

(vi) The circumference of the sun's epicycle is $13^\circ 40'$, that of the moon $31^\circ 46'$. The epicycles are not contracted at any point. In this the *Siddhānta-Śirōmaṇi* concurs (Jacobi, *Epig. Ind.*, Vol. I, p. 441).

(vii) The line of apsides of the sun's orbit has a constant forward shift, the perigee-point (on the longitude of which all calculations in this volume are based) moving $0^s.144$ per ann., or $14^s.4$ in a century. According to the *Siddhānta-Śirōmaṇi* the movement is more rapid, amounting to $1^s.044$ per ann. (Jacobi, *op. cit.*).

(viii) The *śodhya*, or time-interval between true and mean Mēsha-samkrāntis, was, in K.Y. 0 or at the epoch of the Kaliyuga era, according to Dr. Soham,¹ $2^h 17^m 19^s.71$ or $2^h 4^m 38^s.5$. With this the *Siddhānta-Śirōmaṇi* agrees. But in later years the *śodhya*, as postulated by the two authorities, differs in value owing to the difference between the two *Siddhāntas* in their estimate of the movement of the sun's apsis. (See *vis* above.)

(ix) The position of the sun's apsis (perigee) at K.Y. 0, the epoch of the Kaliyuga, was $257^\circ 45' 36''$,² and his mean anomaly was $102^\circ 14' 24''$, or, in 10,000ths of the circle, 284.0.

(x) The position of the moon's apsis (perigee) at the same moment was $305^\circ 29' 46''$,³ and her mean anom. was $54^\circ 30' 14''$, or, in 1,000ths of circle, 151.399691358.

(xi) The sun's mean velocity (he is treated as a planet) and the length of the mean solar year being the same both by the *Brahma-Siddhānta* and the *Siddhānta-Śirōmaṇi*, his mean long. at any moment must be the same by both, and so also the length of the mean solar month. But the two authorities are not in exact accord as to his true long. and the length of the true solar month.

Shift of sun's apsis. The śodhya. Length of true solar year.

314. The length of the mean solar year being the same, viz. $365^d 6^h 12^m 9^s$, by both the *Brahma-Siddhānta* and the *Siddhānta-Śirōmaṇi*, the first portion of § 273 above and accompanying Table A apply as well to the former as to the latter. But for the latter portion of that section and its Table B, the following must be substituted when dealing with the *Brahma-Siddhānta*, the two authorities not being in accord as concerns the matter in question.

315. As stated above, the sun's perigee-point according to the *Brahma-Siddhānta* advances annually $0^s.144$ along the ecliptic, and in consequence of this shift the true sun's velocity at long. 0° is a little greater every year than the year before, i.e. the true sun reaches long. 0° , or the moment of true Mēsha-samkrānti occurs, a little earlier each year. In every year there is a slight increase in the distance and time-difference (our *śodhya*) between the mean and true suns at that point of the orbit. Dr. Soham has carefully calculated the value of this *śodhya* at the moment of true Mēsha-samkrānti at the beginning of several millennia, and his results for the period embraced in my general working Table LXXXII are stated in the following Table B.

¹ *Indian Chronography*, § 39 D, p. 16.

² Jacobi, *Epig. Ind.*, Vol. I, p. 442, § 83, where he gives the place of the apsis (apogee) as $77^\circ 45' 36''$. See also E. Burgess's "*Sūrya-Siddhānta*."

³ Moon's apogee given by Jacobi as $125^\circ 29' 40''$.

TABLE B.
VALUE OF ŚĪDHYA BY THE BRAHMA-SIDDHĀNTA.

| K.Y. year expired. | A.D. | EXACT VALUE OF ŚĪDHYA AT BEGINNING OF CENTURIES. | | | |
|-----------------------|-----------|---|----|----|----|
| | | days and decimals. | d. | h. | m. |
| 3700 | 599-600 | 2-1729145 | 2 | 4 | 8 |
| 3800 | 699-700 | 2-1729400 | 2 | 4 | 9 |
| 3900 | 799-800 | 2-1729655 | 2 | 4 | 9 |
| 4000 | 899-900 | 2-1729910 | 2 | 4 | 9 |
| 4100 | 999-1000 | 2-1730165 | 2 | 4 | 9 |
| 4200 | 1099-1100 | 2-1730420 | 2 | 4 | 9 |
| 4300 | 1199-1200 | 2-1730675 | 2 | 4 | 9 |

One result of this shift of apsis is that, by the *Brahma-Siddhānta*, the true sun reaches the 9th point of long. $0^{\circ}022032$ earlier every year than the year before, and in consequence the length of the true solar year, or the time needed for the true sun to travel from true Mēsha-samkrānti in one year to true Mēsha-samkrānti in the next, is $(365^{\text{d}} 6^{\text{h}} 12^{\text{m}} 9^{\text{s}} - 0^{\circ}022032)$ $365^{\text{d}} 6^{\text{h}} 12^{\text{m}} 8^{\text{s}} 977968$. [The exact moment of true Mēsha-samkrānti in each year from A.D. 599 to 1200 is given in the general Table LXXXII below, cols. 13-17. It can be tested by the use of Table A, § 273, referred to above, and Table B here given, using the "longer rule" stated in § 273 or in *Indian Chronography*, p. 61.]

Another result of the shift is that the sun's mean anomaly, or the mean sun's distance from the sun's perigee-point, decreases every year by $0^{\circ}144$ or $14^{\circ}4$ in a century. Reckoned in 1,000ths of circle for valuation of our "*c*" (sun's mean anom.) in the Tables, $14^{\circ}4 = 0\cdot01$. The value of "*c*" therefore decreases $0\cdot01$ in a century, and this decrease has to be taken into account from K.Y. 0, the epoch of the Kaliyuga. This has been done in the preparation of the Tables which follow.

The increase of "a", "b", "c", in centuries, years, days and fractions of days.

316. Following on what has been stated, we learn that Tables LIVA and B, which deal with the periodical increases of "*a*", "*b*" and "*c*" according to the *Siddhānta-Śirōmapi*, may safely be used for calculation by the *Brahma-Siddhānta*, with the one reservation as to the increase of "*c*" in a century. "*a*" being the distance of mean moon from mean sun, and the longitude of the mean sun not being affected by the shift of apsis, but only his mean anom., or distance from the point of the apsis, it appears that the rate of increase of "*a*" must be same by both authorities.

As to the rate of increase of "*c*" it is, by the *Siddhānta-Śirōmapi*, centennially less by $0\cdot0805$ (§ 273 above), and this was taken into account in the preparation of the heading of Table LIVA, where a footnote is appended showing what the rate of increase would be per century if no such deduction had been made. This rate is, in thousandths of a circle, $997\cdot690008075$ in a century of 36525 days, and $0\cdot427795618$ in a century of 36526 days. By the *Brahma-Siddhānta*, the centennial decrease in the sun's mean anomaly being $0\cdot01$, the amount of increase of "*c*" per century is, for a century of 36525 days, $997\cdot678896964$, and for a century of 36526 days is

0.416684507. The difference between the two authorities in shorter periods may be ignored except in some extraordinarily close case. If it is ever needed, the increase in "c" in one year may be reduced by 0.0001 from the Table quantity.

Otherwise Tables LIV-A and B stand good for calculations by the *Brahma-Siddhanta*.

The values of "a", "b", "c" at the beginning of K.Y. 3700.

317. The general Table LXXXII below begins from the beginning of K.Y. 3700 expired. Table LXXXVI states the value of "a", "b", "c" at that moment, and at the similar moment at the beginning of subsequent centuries. It is necessary therefore to explain how these figures were calculated.

(i) *The value of "a" (distance of mean moon from mean sun) in K.Y. 3700.* According to Hindu astronomers mean moon and mean sun were in conjunction at the moment of mean Māsha-saṁkrānti in K.Y. 0, the epoch of the Kaliyuga; or, in other words, at that moment "a" = 0. In the 37 succeeding centuries there were 32 common and 5 defective centuries. Taking the century values of "a" given in the heading of Table LIV-A and multiplying for 32 common and 5 defective centuries, we arrive at the figure 6567.108945284 as the value of "a" at the beginning of the 37th century K.Y., whole revolutions of 10,000 each being omitted. From this figure has to be deducted,—according to the working system of the *Indian Calendar*, which follows Largeteau and Jacobi,—the sum of the greatest equations of sun and moon, viz. 200.28402† (*above* § 313, *iv*). This gives us the value of "a" at the beginning of K.Y. 3700 (expired) as 6366.824917506.¹

Now this value stands for mean sunrise of Sunday, 22 March, A.D. 599, i.e. for the sunrise succeeding the moment of occurrence of mean Māsha-saṁkrānti in K.Y. 3700; but in all my Tables the calculation is for mean sunrise on the actual day of that occurrence, and we have therefore to deduct one day's value of "a" (viz. 338.631985412—Table LIV-A *above*) from the above estimate. This done, we have, for mean sunrise on Saturday, $a = 6028.192932094$.

(ii) *The value of "b" (moon's mean anom.) at the same moment.* At the epoch of the Kaliyuga the moon's mean anom. was, as stated above (§ 313, *x*), in 1,000ths of a circle, 151.399691358. Using the century figures of "b" in the heading of Table LIV-A, and multiplying for 32 common and 5 defective centuries, it is found that, excluding whole revolutions of 1,000 each, the result is 604.144838202. Adding the value of "b" at K.Y. 0, as above, we have for the value of "b", at beginning of K.Y. 3700, 755.544529560.² But this (*see above*, i) was its value at mean sunrise on Sunday, 22 March, A.D. 599. Deducting one day's value of "b" (36.291649786) the fixture for mean sunrise on Saturday, 21 March, amounts to 719.252879774.

(iii) *The value of "c" (the sun's mean anom.) at the same moment.* The correct increase of "c" by the *Brahma-Siddhanta* in centuries of 36525 and 36526 days has been given above in the latter part of § 316. Multiplying those quantities for 32 common and 5 defective centuries, and discarding whole revolutions of 1,000 each, we arrive at the increase, after 37 centuries, of 1.728389044. To this has to be added the value of "c" at K.Y. 0 (*above*, § 313, *ix*), viz. 284.0. The value of "c", therefore, at mean sunrise of Sunday, 22 March, A.D. 599, was 285.728389044.³ Deducting the "c" for one day (2.737787543) we have finally, for mean sunrise on Saturday, 21 March, "c" = 282.990601501.

¹ Professor Jacobi differs by about 17 units. He gives the figure 6384.0 (*Epig. Ind., Vol. XI, p. 167, Table IXA*). I can give no explanation of the reason for this; and can only state fully, as in the text, my basis of calculation.

² Professor Jacobi's figure for this is 758.1, in my notation, against my 755.5.

³ This agrees with Professor Jacobi's fixture, which, measured from perigee and in my notation, is 285.7.

The entries, therefore, for the aforesaid Saturday of K.Y. 3700 in Table LXXXVI below are

$$a = 6028.1929$$

$$b = 719.2529$$

$$c = 282.9906.$$

The rest of that Table follows by addition of the proper century values.

Duration of true solar months.

318. It has been mentioned above (§ 313, *xi*) that, while the length of the mean solar month must be the same both by the *Brahma-Siddhānta* and the *Siddhānta-Śirōmaṇi*, the lengths of the true solar months according to the two authorities differ because of their different estimate of the shift of the sun's apsis. Thus in K.Y. 4000, the middle year of my general Table LXXXII below, the sun's perigee-point according to the *Siddhānta-Śirōmaṇi* was at long. $258^{\circ} 55' 12''$, while by the *Brahma-Siddhānta* it was at long. $257^{\circ} 55' 12''$. Hence the velocity of the true sun (he is always considered as a planet) at the several true solar *samkrāntis*, i.e. when the true sun's centre enters the several signs, is not the same by the two authorities quoted. And this has necessitated the preparation of a new Table (LXXXIII-A below), giving the lengths of the true solar months and increase of "a", "b", "c" therein individually and collectively according to the *Brahma-Siddhānta*.

There being in K.Y. 4000 a difference of only $4' 48''$ between the positions of the sun's perigee, as estimated by the *Brahma-Siddhānta* and by the *First Ārya-Siddhānta*, the former placing it at $257^{\circ} 55' 12''$ and the latter at 258° , it was considered sufficiently safe to use Table XLIX (above) for the true sun's velocity at different points of his orbit in hours and minutes, and Table L-A for seconds. His true long. at each *samkrānti* was computed from his known mean longitude + the equation of the centre, which was calculated in each case. Thus was obtained the length of each month in days, hours, etc. For the increase of "a", "b", "c" during the periods so determined Tables LIV-A and B, which are applicable to the *Brahma-Siddhānta* as well as to the *Siddhānta-Śirōmaṇi*, were used.

Note on work for the nakshatra:

319. In our method of work "*s*" = the true sun's longitude and "*t*" = the *tithi*-index (which shews the true moon's distance from the true sun) at the given moment. $s + t$ = the *nakshatra*-index "*n*", which gives the true moon's place in the heavens, or her apparent longitude. The value of "*t*" is ascertained by the ordinary calculation for a date. The value of "*s*" has to be found.

By the *Ārya-Siddhānta* the formula for finding "*s*", "*c*" being the sun's mean anom. at the given moment, is $s = (c \times 10) + 7226$ — eqn. *c*; where the factor 7226, which represents in 10,000ths of circle the long. of sun's perigee plus the sun's greatest equation, is a constant.¹

By the *Sūrya-Siddhānta*, as exemplified in the *Indian Calendar*, the numerical factor is not 7226, but varies in the period A.D. 900 to 1900 from 7206.5077 to 7207.4035, being fixed for rough work at 7207. The variation is due to the postulated shift of the sun's perigee-point.

By the *Siddhānta-Śirōmaṇi* there is, for the same reason, a variation in the numerical factor, viz. from 7252.6466 in A.D. 900 to 7259.0910 in A.D. 1700,—roughly from 7253 to 7259.

¹ See *Indian Calendar*, § 156, p. 97; article on the *Siddhānta-Śirōmaṇi*, above, § 273. "Note on work for the nakshatra"; article on the *First Ārya-Siddhānta*, above, § 302; and the several examples given in those papers.

By the *Brahma-Siddhanta* the numerical factor varies from 7224·5370 in A.D. 600 to 7225·2037 in A.D. 1200 (the limits of the general Table LXXXII below) For rough work therefore by this authority the formula is $s = (c \times 10) + 7225 - \text{equ. } c$

For more accurate work the value of "c" should be calculated (by the Tables) with decimals, and instead of multiplying "c" by 10 its value should be changed from thousandths of circle (as in the Table-result) to ten thousandths by moving the decimal point one place to the right and, when the whole number consists of four figures, deleting the last figure on the left¹ the value of "equ. c" can be obtained from Table LVI with great accuracy: and the numerical factor can be taken from the following summary.

| K.Y. century. | A.D. century. | Exact factor in formula. | Roughly. |
|------------------|------------------|-----------------------------|----------|
| 3700 | 599-600 | 7224·5370 | 7225 |
| 3800 | 699-700 | 7224·6481 | |
| 3900 | 799-800 | 7224·7592 | |
| 4000 | 899-900 | 7224·8703 | |
| 4100 | 999-1000 | 7224·9814 | |
| 4200 | 1099-1100 | 7225·0925 | |
| 4300 | 1199-1200 | 7225·2037 | |

Examples.

It is not necessary to give a number of examples of work by the present Tables. The system of calculation being exactly the same as that of the *Indian Calendar* and throughout the present series of articles, the examples already published for computation by other authorities will suffice, *the proper Tables being used*, for work by the *Brahma-Siddhanta*. These Tables are specified in the following pages.

Tables for calculation by the Brahma-Siddhanta.

The system of work for computation of an Indian date will be readily understood by perusal of examples 2 to 11 appended to my paper (*above*) on the *First Ārya-Siddhanta*; but the Tables used are of course not all the same. The following list shews how accurate results by the *Brahma-Siddhanta* are to be obtained in calculation by the movements of true sun and true moon.

Table LXXXII below is the general working Table for the *Brahma-Siddhanta* for the period A.D. 599 to 1200 (K.Y. 3700 to 4300 expired).

For names of months and of nakshatras in different parts of India, see Table LXII above (*"The First Ārya-Siddhanta"*).

For collective duration of mean lunar months see Table LXIII-A of the same article, or Table III, Part I, *Indian Calendar*.

Table LXXXIII-A below gives, by the *Brahma-Siddhanta*, the length of the true solar months and their collective duration, with the corresponding increases of "a", "b", "c".

Table LXXXIII-B states the exact value of "c" and of "equation c" at the several true *sankrāntis*, or moments of the true sun's centre reaching the several signs.

¹ Whole revolutions are not necessary for present purposes, and in our system when "a" = 10,000 a whole synodic revolution of the mean moon has been completed.

Table LXXXIII-C shows the value of "a" and of "equation c" at the beginning of each century of the Kaliyuga.

For the increase of "a", "b", "c" respectively in defective and common centuries, and in common years and Leap-years, see Table LIV-A, heading; but note that by the *Brahma-Siddhānta* the increase of "c" in a defective century of 36525 days is 997·678896964 and in a common century of 36526 days is 0·416684507. Tables LIV-A and B contain the necessary figures for days, hours, minutes and seconds.

Table LXXXIV gives the values of "equation b," and Table LXXXV those of "equation c," for easy calculation by whole numbers, corresponding respectively to Tables VI and VII of the "*Indian Calendar*," which stand for the *Sūrya-Siddhānta*.

For the more detailed values of "equation b" and "equation c" of moon and sun use Tables LV and LVI above, Vol. XV, as framed for the *Siddhānta-Śirōmaṇi*.

For the indices of *tithis* ("t"), *karāṇas*, *yōgas* ("y") and *nakṣatras* ("n") see Table VIII, "*Indian Calendar*," or Table LXVIII (*above*).

For serial numbers of days of a year reckoned from January 1st use Table IX, "*Indian Calendar*," or Table LXIX (*above*).

For conversion of *tithi*-indices and *tithi*-parts into time Table X, "*Indian Calendar*," is to be used, or Table LXX (*above*).

For finding the week-day according to the European Calendar for any century from A.D. 4 to 2300 see Table LXXI (*above*), or Table XLI-A and B (*pp.* 176, 177, "*Indian Chronography*");

Table LXXXVI gives the values of "a", "b", "c" at the beginning of each century of the Kaliyuga by the *Brahma-Siddhānta*.

Table LXXXVII gives the same for odd years of those centuries.

Table LXXXVIII states the daily sunrise values of "a", "b", "c" for a month previous to the day of *Mēṣa-samkrānti*.

Table LXXXIX sets forth the 24 base-sines of angles of the quadrant according to *Brahmagupta*, and the corresponding equations of the sun's centre.

TABLE LXXXII.

CONSTRUCTION OF TABLE.

The Table is constructed on the lines of Table I of the *Indian Calendar* and is to be used in the same way. The columns are numbered similarly.

Col. 7. The *samvatsara*-name,—i.e. the name of the Jovian cycle—, of the year is given as determined by my previous calculations (*above*, Table XLII). Entries in italics point to cases where this *samvatsara*-name differs from that given to the same year by *Sūrya-Siddhānta* reckoning.

Col. 8. Months noted in roman characters are intercalated (*adhika*) lunar months. Those in italics are suppressed (*kshaya*) months.

Cols. 13, 19. Figures in brackets give the serial number of the day measured from January 1st.

Col. 23. "a"=distance, at mean sunrise (taken as 6 A.M.) on the day noted in cols. 19, 20, of mean moon from mean sun, i.e., phase of moon at that moment; stated in 10,000ths of circle and reduced by the sum of the greatest equations of sun and moon, so that calculation of the equations of "b" and "c" may always be additive.

Col. 24. "b"=mean anomaly of moon at the same moment, or mean moon's distance from the perigee-point of her apsis, stated in 1,000ths of circle.

Col. 25. "c"=mean anomaly of sun at the same moment, or mean sun's distance from his perigee-point, stated in 1,000ths of circle.

REMARKS.

A.D. 629-630, cols. 19, 20. A very close case. The moment of true new moon was less than half a minute after mean sunrise at Lañkā on Wednesday, 1st March. And the first *śukla tithi* of the year ended after mean sunrise on Thursday, 2nd March, which was therefore by rule the first civil day of the luni-solar year. If new moon had taken place more than half a minute earlier the first civil day of the year, "Chaitra śukla 1," would have been 1st March.

A.D. 968-69, col. 8. At the Kumbha *samkrānti* the true moon was waning. The moment of the next, the Mīna, *samkrānti* occurred about $2\frac{1}{2}$ minutes after the moment of true new moon, so that the true moon was waxing at the Mīna *samkrānti*. Hence the lunar month Phālguna was intercalated. According to the 19-year sequence we should have expected an intercalation of the lunar month Chaitra next following. The sequence shows similar irregularities when examined by other authorities, but only very rarely.

A.D. 974-75, cols. 19, 20. Close case. The 1st true new moon after the Mīna *samkrānti* occurred 3 minutes before mean sunrise at Lañkā on 25th February A.D. 974. That therefore was the day "Chaitra śukla 1."

A.D. 963-64, 982-83, col. 8. In both these years an intercalation of the lunar month Śrāvapa instead of Āshāḍha would have been more in accordance with the 19-year sequence, seeing that Śrāvapa was the intercalated month in A.D. 1001 and 1020; but prior to A.D. 963 at intervals of 19 years there had been eight intercalations of Śrāvapa, and towards the close of such a run a change of conditions generally becomes apparent.

A.D. 1001-2, 1020-21, col. 8. See the previous note. If in these two years the conditions had made necessary an intercalation of Āshāḍha, the 19-year sequence would have been uninterrupted.

A.D. 1128-29, col. 8. By the *Brahma-Siddhānta* the intercalation of Phālguna was clearly demanded. See Remarks preceding Table LX (*above*), on the same year as worked by the *Siddhānta-Sirṁaṇi*.

TABLE

GENERAL TABLE FOR CALCULATION

Conforming to Table I "Indian Calendar"

(See notes on

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|--|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SĀMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3701 | 522 | 657 | 6 | | 599-600 | 50 Anala . . . | | ... |
| 3702 | 523 | 658 | 7 | | *600-01 | 51 Phāgala . . . | | 3 Jyēṣṭha . |
| 3703 | 524 | 659 | 8 | | 601-02 | 52 Kālayukta . . . | | ... |
| 3704 | 525 | 660 | 9 | | 602-03 | 53 Siddhārthīn . . . | { 7 Āsvina 11 Māgha (<i>ksh.</i>) } | |
| 3705 | 526 | 661 | 10 | | 603-04 | 54 Raudra . . . | 1 Chaitra . | |
| 3706 | 527 | 662 | 11 | | *604-05 | 55 Durmatī . . . | | ... |
| 3707 | 528 | 663 | 12 | | 605-06 | 56 Dundubhī . . . | | 5 Śrāvaṇa . |
| 3708 | 529 | 664 | 13 | | 606-07 | 57 Rudhirōdgārīn . . . | | ... |
| 3709 | 530 | 665 | 14 | | 607-08 | 58 Raktāksha . . . | | ... |
| 3710 | 531 | 666 | 15 | | *608-09 | 59 Krōdhana . . . | | 4 Āshāḍha . |
| 3711 | 532 | 667 | 16 | | 609-10 | 60 Kshaya . . . | | ... |
| 3712 | 533 | 668 | 17 | | 610-11 | 1 Prabhava . . . | | ... |
| 3713 | 534 | 669 | 18 | | 611-12 | 2 Vibhava . . . | | 2 Vaiśākha . |
| 3714 | 535 | 670 | 19 | | *612-13 | 3 Śukla . . . | | ... |
| 3715 | 536 | 671 | 20 | | 613-14 | 4 Pramōda . . . | | 6 Bhādrapada |
| 3716 | 537 | 672 | 21 | | 614-15 | 5 Prajāpati . . . | | ... |
| 3717 | 538 | 673 | 22 | | 615-16 | 6 Āngīras . . . | | ... |
| 3718 | 539 | 674 | 23 | | *616-17 | 7 Śrīmukha . . . | | 4 Āshāḍha . |
| 3719 | 540 | 675 | 24 | | 617-18 | 8 Bhāva . . . | | ... |
| 3720 | 541 | 676 | 25 | | 618-19 | 9 Yuvā . . . | | ... |
| 3721 | 542 | 677 | 26 | | 619-20 | 10 Dhātṛī . . . | | 3 Jyēṣṭha |
| *722 | 543 | 678 | 27 | | *620-21 | 11 Īśvara . . . | | |

LXXXII.

BY THE BRAHMA-SIDDHANTA.

the columns being similarly numbered.

preceding page.)

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D. | Week-day. | a | b | c | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 19 Mar. (78) | 5 Thur. | 1 6 0 | 3 Mar. (62) | 3 Tues. | 9932-8171 | 66-0032 | 233-7104 | 3701 | |
| 18 Mar. (78) | 6 Fri. | 7 18 9 | 21 Feb. (52) | 1 Sun. | 147-1720 | 949-5390 | 205-6250 | 3702 | |
| 18 Mar. (77) | 0 Sat. | 13 30 18 | 11 Mar. (70) | 0 Sat. | 181-8344 | 885-5324 | 250-9354 | 3703 | |
| 18 Mar. (77) | 1 Sun. | 19 42 27 | 28 Feb. (59) | 4 Wed. | 57-5772 | 732-7766 | 226-1121 | 3704 | |
| 19 Mar. (78) | 3 Tues. | 1 54 36 | 18 Feb. (49) | 2 Mon. | 271-9320 | 616-3122 | 203-5023 | 3705 | |
| 18 Mar. (78) | 4 Wed. | 8 6 45 | 7 Mar. (67) | 0 Sat. | 9967-9825 | 516-0140 | 246-5094 | 3706 | |
| 18 Mar. (77) | 5 Thur. | 14 18 54 | 24 Feb. (55) | 4 Wed. | 9843-7052 | 363-2681 | 215-7762 | 3707 | |
| 18 Mar. (77) | 6 Fri. | 20 31 3 | 15 Mar. (74) | 3 Tues. | 9878-3876 | 299-1516 | 267-0865 | 3708 | |
| 19 Mar. (78) | 1 Sun. | 2 43 12 | 4 Mar. (63) | 0 Sat. | 9754-1105 | 146-4956 | 237-2624 | 3709 | |
| 18 Mar. (78) | 2 Mon. | 8 55 21 | 22 Feb. (53) | 5 Thur. | 9968-4653 | 30-0312 | 208-1780 | 3710 | |
| 18 Mar. (77) | 3 Tues. | 15 7 30 | 12 Mar. (71) | 4 Wed. | 3-1477 | 966-0247 | 269-4884 | 3711 | |
| 18 Mar. (77) | 4 Wed. | 21 19 39 | 2 Mar. (61) | 2 Mon. | 217-5035 | 849-5604 | 231-4029 | 3712 | |
| 19 Mar. (78) | 6 Fri. | 3 31 48 | 19 Feb. (50) | 6 Fri. | 93-2254 | 606-8045 | 200-5797 | 3713 | |
| 18 Mar. (78) | 0 Sat. | 9 43 57 | 9 Mar. (69) | 5 Thur. | 127-9077 | 632-7980 | 251-8902 | 3714 | |
| 18 Mar. (77) | 1 Sun. | 15 56 6 | 26 Feb. (57) | 2 Mon. | 3-6206 | 480-0421 | 221-0669 | 3715 | |
| 18 Mar. (77) | 2 Mon. | 22 8 15 | 16 Mar. (75) | 0 Sat. | 9999-6810 | 379-7440 | 269-6395 | 3716 | |
| 19 Mar. (78) | 4 Wed. | 4 20 24 | 6 Mar. (65) | 5 Thur. | 9914-0358 | 263-2796 | 241-5342 | 3717 | |
| 18 Mar. (78) | 5 Thur. | 10 32 33 | 23 Feb. (54) | 2 Mon. | 9789-7587 | 110-5236 | 210-3710 | 3718 | |
| 18 Mar. (77) | 6 Fri. | 16 44 42 | 13 Mar. (72) | 1 Sun. | 9824-4420 | 46-5171 | 262-0414 | 3719 | |
| 18 Mar. (77) | 0 Sat. | 22 56 51 | 3 Mar. (62) | 6 Fri. | 38-7959 | 930-0528 | 233-9559 | 3720 | |
| 19 Mar. (78) | 2 Mon. | 5 9 0 | 21 Feb. (52) | 4 Wed. | 253-1507 | 813-5883 | 205-8705 | 3721 | |
| 18 Mar. (78) | 3 Tues. | 11 21 9 | 11 Mar. (71) | 3 Tues. | 287-8331 | 740-5820 | 257-1811 | 3722 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | Jovian Sāmvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3723 | 544 | 679 | 28 | | 621-22 | 12 Bahodhānya | . | 7 Āvina |
| 3724 | 545 | 680 | 29 | | 622-23 | 13 Pramādin | . | ... |
| 3725 | 546 | 681 | 30 | | 623-24 | 14 Vikrama | . | ... |
| 3726 | 547 | 682 | 31 | | *624-25 | 15 Vṛisha | . | 5 Śrāvapa |
| 3727 | 548 | 683 | 32 | | 625-26 | 16 Chitrabhānu | . | ... |
| 3728 | 549 | 684 | 33 | | 626-27 | 17 Subhānu | . | ... |
| 3729 | 550 | 685 | 34 | | 627-28 | 18 Tārāpa | . | 4 Āshāḍha |
| 3730 | 551 | 686 | 35 | | *628-29 | 19 Pārthiva | . | ... |
| 3731 | 552 | 687 | 36 | | 629-30 | 20 Vyaya | . | ... |
| 3732 | 553 | 688 | 37 | | 630-31 | 21 Sarvajit | . | 2 Vaiśākha |
| 3733 | 554 | 689 | 38 | | 631-32 | 22 Sarvadhārin | . | ... |
| 3734 | 555 | 690 | 39 | | *632-33 | 23 Virōdhin | . | 6 Bhādrapada |
| 3735 | 556 | 691 | 40 | | 633-34 | 24 Vikṛita | . | ... |
| 3736 | 557 | 692 | 41 | | 634-35 | 25 Khara | . | ... |
| 3737 | 558 | 693 | 42 | | 635-36 | 26 Nandana | . | 4 Āshāḍha |
| 3738 | 559 | 694 | 43 | | *636-37 | 27 Vijaya | . | ... |
| 3739 | 560 | 695 | 44 | | 637-38 | 28 Jaya | . | ... |
| 3740 | 561 | 696 | 45 | | 638-39 | 29 Manmatha | . | 3 Jyēṣṭha |
| 3741 | 562 | 697 | 46 | | 639-40 | 30 Darmukha | . | ... |
| 3742 | 563 | 698 | 47 | | *640-41 | 31 Hēmalamba | . | 7 Āvina |
| 3743 | 564 | 699 | 48 | | 641-42 | 32 Vilamba | . | ... |
| 3744 | 565 | 700 | 49 | | 642-43 | 33 Vikārin | . | ... |
| 3745 | 566 | 701 | 50 | | 643-44 | 34 Śārvarin | . | Śrāvapa |
| 3746 | 567 | 702 | 51 | | *644-45 | 35 Plava | . | ... |
| 3747 | 568 | 703 | 52 | | 645-46 | 36 Subhakṛit | . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|---------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sath-krānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 18 Mar. (77) | 4 Wed. | 17 33 18 | 28 Feb. (59) | 0 Sat. | 163-5560 | 596-8261 | 228-3577 | 3723 |
| 18 Mar. (77) | 5 Thur. | 23 45 27 | 18 Mar. (77) | 5 Thur. | 9859-6063 | 496-5279 | 274-9393 | 3724 |
| 19 Mar. (78) | 0 Sat. | 5 57 36 | 8 Mar. (67) | 3 Tues. | 73-9612 | 380-0635 | 246-8449 | 3725 |
| 18 Mar. (78) | 1 Sun. | 12 9 45 | 25 Feb. (56) | 0 Sat. | 9949-6840 | 227-3976 | 216-0218 | 3726 |
| 18 Mar. (77) | 2 Mon. | 18 21 54 | 15 Mar. (74) | 6 Fri. | 9084-3664 | 163-3911 | 267-3321 | 3727 |
| 19 Mar. (78) | 4 Wed. | 0 34 3 | 4 Mar. (63) | 3 Tues. | 9960-0892 | 10-5451 | 236-5089 | 3728 |
| 19 Mar. (78) | 5 Thur. | 8 46 12 | 22 Feb. (53) | 1 Sun. | 74-4441 | 894-0890 | 208-4235 | 3729 |
| 18 Mar. (78) | 6 Fri. | 12 58 21 | 12 Mar. (72) | 0 Sat. | 109-1265 | 830-0742 | 259-7340 | 3730 |
| 18 Mar. (77) | 0 Sat. | 19 10 30 | 2 Mar. (61) | 5 Thur.†† | 323-4813 | 712-6100 | 231-6483 | 3731 |
| 19 Mar. (78) | 2 Mon. | 1 22 39 | 19 Feb. (50) | 2 Mon. | 199-2041 | 560-8540 | 200-8252 | 3732 |
| 19 Mar. (78) | 3 Tues. | 7 34 47 | 9 Mar. (68) | 0 Sat. | 9895-2545 | 461-5558 | 249-3979 | 3733 |
| 18 Mar. (78) | 4 Wed. | 13 46 56 | 26 Feb. (57) | 4 Wed. | 9770-9774 | 307-7999 | 218-5748 | 3734 |
| 18 Mar. (77) | 5 Thur. | 19 59 5 | 16 Mar. (75) | 3 Tues. | 9805-6597 | 243-7934 | 269-8851 | 3735 |
| 19 Mar. (78) | 0 Sat. | 2 11 14 | 6 Mar. (65) | 1 Sun. | 20-0146 | 127-3290 | 241-0922 | 3736 |
| 19 Mar. (78) | 1 Sun. | 8 23 23 | 23 Feb. (54) | 5 Thur. | 9895-7375 | 974-5731 | 210-9765 | 3737 |
| 18 Mar. (78) | 2 Mon. | 14 35 32 | 13 Mar. (73) | 4 Wed. | 9930-4199 | 910-5666 | 262-2870 | 3738 |
| 18 Mar. (77) | 3 Tues. | 20 47 41 | 3 Mar. (62) | 2 Mon. | 144-7746 | 794-1023 | 234-2015 | 3739 |
| 19 Mar. (78) | 5 Thur. | 2 59 50 | 20 Feb. (51) | 6 Fri. | 20-4975 | 641-3463 | 293-3783 | 3740 |
| 19 Mar. (78) | 6 Fri. | 9 11 59 | 11 Mar. (70) | 5 Thur. | 55-1799 | 577-3396 | 251-6887 | 3741 |
| 18 Mar. (78) | 0 Sat. | 15 24 8 | 28 Feb. (59) | 2 Mon. | 9930-9027 | 424-5838 | 223-8655 | 3742 |
| 18 Mar. (77) | 1 Sun. | 21 36 17 | 18 Mar. (77) | 1 Sun. | 9965-5851 | 390-5774 | 275-1759 | 3743 |
| 19 Mar. (78) | 3 Tues. | 3 48 26 | 7 Mar. (66) | 5 Thur. | 9841-3081 | 207-8213 | 214-3527 | 3744 |
| 19 Mar. (78) | 4 Wed. | 10 0 35 | 25 Feb. (56) | 3 Tues. | 55-6628 | 91-3571 | 216-2673 | 3745 |
| 18 Mar. (78) | 5 Thur. | 16 12 44 | 15 Mar. (75) | 2 Mon. | 90-3451 | 27-3506 | 267-5776 | 3746 |
| 18 Mar. (77) | 6 Fri. | 22 24 53 | 4 Mar. (63) | 6 Fri. | 9966-0080 | 873-8747 | 239-7345 | 3747 |

†† See "Remarks," above, page 455.

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------------|---------------------|--|
| Kalī. | Śaka. | Chaitrādi Vikramā. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3 ₂ | 4 | 5 | 6 | 7 | 8 ₂ |
| 3748 | 569 | 704 | 53 | | 646-47 | 37 Śobhana . . . | | 4 Āshādha . |
| 3749 | 570 | 705 | 54 | | 647-48 | 38 Krōdhina . . . | | ... |
| 3750 | 571 | 706 | 55 | | *648-49 | 39 Viśvāvasat† . . . | | ... |
| 3751 | 572 | 707 | 56 | | 649-50 | 41 <i>Plavanga</i> . . . | | 2 Vaiśākha . |
| 3752 | 573 | 708 | 57 | | 650-51 | 42 Kṛhita . . . | | ... |
| 3753 | 574 | 709 | 58 | | 651-52 | 43 Saumya . . . | | 6 Bhādrapada . |
| 3754 | 575 | 710 | 59 | | *652-53 | 44 Sadhārāga . . . | | ... |
| 3755 | 576 | 711 | 60 | | 653-54 | 45 <i>Virodhakṛt</i> . . . | | ... |
| 3756 | 577 | 712 | 61 | | 654-55 | 46 Paridhāvin . . . | | 4 Āshādha . |
| 3757 | 578 | 713 | 62 | | 655-56 | 47 Pramādin . . . | | ... |
| 3758 | 579 | 714 | 63 | | *656-57 | 48 Ānanda . . . | | ... |
| 3759 | 580 | 715 | 64 | | 657-58 | 49 Rākhasa . . . | | 3 Jyēsthā . |
| 3760 | 581 | 716 | 65 | | 658-59 | 50 Anala . . . | | ... |
| 3761 | 582 | 717 | 66 | | 659-60 | 51 Phāga ½ . . . | | 7 Āsvina . |
| 3762 | 583 | 718 | 67 | | *660-61 | 52 Kālayukta . . . | | ... |
| 3763 | 584 | 719 | 68 | | 661-62 | 53 Siddhārthin . . . | | ... |
| 3764 | 585 | 720 | 69 | | 662-63 | 54 Raucra . . . | | 5 Śrāvaṇa . |
| 3765 | 586 | 721 | 70 | | 663-64 | 55 Daruati . . . | | ... |
| 3766 | 587 | 722 | 71 | | *664-65 | 56 Dundubhi . . . | | ... |
| 3767 | 588 | 723 | 72 | | 665-66 | 57 Rudhirōdgārin . . . | | 4 Āshādha . |
| 3768 | 589 | 724 | 73 | | 666-67 | 58 Raktāksha . . . | | ... |
| 3769 | 590 | 725 | 74 | | 667-68 | 59 Krōdhana . . . | | ... |
| 3770 | 591 | 726 | 75 | | *668-69 | 60 Kahaya . . . | | 1 Chaitra |
| 3771 | 592 | 727 | 76 | | 669-70 | 1 Prabhava . . . | | ... |
| 3772 | 593 | 728 | 77 | | 670-71 | 2 Vibhava . . . | | 5 Śrāvaṇa . |

† 40 Parābhava was suppressed.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 19 Mar. (78) | 1 Sun. | 4 37 2 | 22 Feb. (53) | 4 Wed. | 180-4229 | 758-1223 | 208-0691 | 3748 |
| 19 Mar. (78) | 2 Mon. | 10 49 11 | 13 Mar. (72) | 3 Tues. | 215-1052 | 694-1237 | 259-9795 | 3749 |
| 18 Mar. (78) | 3 Tues. | 17 1 20 | 1 Mar. (61) | 0 Sat. | 90-8281 | 541-3679 | 229-1662 | 3750 |
| 18 Mar. (77) | 4 Wed. | 23 13 29 | 18 Feb. (49) | 4 Wed. | 9906-5509 | 388-6119 | 198-3330 | 3751 |
| 19 Mar. (78) | 6 Fri. | 5 25 38 | 9 Mar. (68) | 3 Tues. | 1-2333 | 324-6053 | 249-6435 | 3752 |
| 19 Mar. (78) | 0 Sat. | 11 37 47 | 26 Feb. (57) | 0 Sat. | 9876-9561 | 171-8494 | 218-8203 | 3753 |
| 18 Mar. (78) | 1 Sun. | 17 49 56 | 16 Mar. (76) | 6 Fri. | 9911-6385 | 107-8429 | 270-1306 | 3754 |
| 19 Mar. (78) | 3 Tues. | 0 2 5 | 6 Mar. (65) | 4 Wed. | 125-9934 | 991-3786 | 242-0453 | 3755 |
| 19 Mar. (78) | 4 Wed. | 6 14 14 | 23 Feb. (54) | 1 Sun. | 1-7162 | 838-6227 | 211-2221 | 3756 |
| 19 Mar. (78) | 5 Thur. | 12 26 23 | 14 Mar. (73) | 0 Sat. | 36-3986 | 774-6161 | 262-5325 | 3757 |
| 18 Mar. (78) | 6 Fri. | 18 38 32 | 3 Mar. (63) | 5 Thur. | 250-7534 | 658-1518 | 234-4470 | 3758 |
| 19 Mar. (78) | 1 Sun. | 0 50 41 | 20 Feb. (51) | 2 Mon. | 126-5803 | 505-3958 | 203-6238 | 3759 |
| 19 Mar. (78) | 2 Mon. | 7 2 50 | 10 Mar. (69) | 0 Sat. | 9822-5266 | 405-0977 | 252-1965 | 3760 |
| 19 Mar. (78) | 3 Tues. | 13 14 59 | 28 Feb. (59) | 5 Thur. | 36-8815 | 288-6334 | 224-1110 | 3761 |
| 18 Mar. (78) | 4 Wed. | 19 27 8 | 17 Mar. (77) | 3 Tues. | 9732-9319 | 188-3353 | 272-6836 | 3762 |
| 19 Mar. (78) | 6 Fri. | 1 39 17 | 7 Mar. (66) | 1 Sun. | 9947-2867 | 71-8709 | 244-5982 | 3763 |
| 19 Mar. (78) | 0 Sat. | 7 51 26 | 25 Feb. (56) | 6 Fri. | 161-6415 | 955-4066 | 216-5129 | 3764 |
| 19 Mar. (78) | 1 Sun. | 14 3 35 | 16 Mar. (75) | 5 Thur. | 196-2239 | 891-4001 | 267-8232 | 3765 |
| 18 Mar. (78) | 2 Mon. | 20 15 44 | 4 Mar. (64) | 2 Mon. | 72-0468 | 738-6441 | 237-0000 | 3766 |
| 19 Mar. (78) | 4 Wed. | 2 27 53 | 21 Feb. (52) | 6 Fri. | 9947-7696 | 585-8882 | 206-1768 | 3767 |
| 19 Mar. (78) | 5 Thur. | 8 40 2 | 12 Mar. (71) | 5 Thur. | 9982-6410 | 621-8817 | 257-4873 | 3768 |
| 19 Mar. (78) | 6 Fri. | 14 52 11 | 1 Mar. (60) | 2 Mon. | 9858-1749 | 369-1257 | 226-6640 | 3769 |
| 18 Mar. (78) | 0 Sat. | 21 4 20 | 18 Feb. (49) | 6 Fri. | 9733-8977 | 216-3699 | 195-8407 | 3770 |
| 19 Mar. (78) | 2 Mon. | 3 16 29 | 8 Mar. (67) | 5 Thur. | 9768-5891 | 152-5632 | 247-1512 | 3771 |
| 19 Mar. (78) | 3 Tues. | 9 28 38 | 26 Feb. (57) | 3 Tues. | 9982-9349 | 35-8889 | 219-0059 | 3772 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kalī. | Śaka. | Chaitrēdi Vikrama. | Māshēdi solar year in Bengal. | Kollam. | A. D. | JOVIAN SĀMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3773 | 594 | 729 | 78 | | 671-72 | 3 Śukla | | ... |
| 3774 | 595 | 730 | 79 | | *672-73 | 4 Pramōda | | ... |
| 3775 | 596 | 731 | 80 | | 673-74 | 5 Prajāpati | | 4 Āshāḍha . |
| 3776 | 597 | 732 | 81 | | 674-75 | 6 Aṅgiras | | ... |
| 3777 | 598 | 733 | 82 | | 675-76 | 7 Śrīmukha | | ... |
| 3778 | 599 | 734 | 83 | | *676-77 | 8 Bhāva | | 2 Vaiśākha . |
| 3779 | 600 | 735 | 84 | | 677-78 | 9 Yuvan | | ... |
| 3780 | 601 | 736 | 85 | | 678-79 | 10 Dhātṛi | | 7 Āśvina . |
| 3781 | 602 | 737 | 86 | | 679-80 | 11 Īvara | | ... |
| 3782 | 603 | 738 | 87 | | *680-81 | 12 Bahudhānya | | ... |
| 3783 | 604 | 739 | 88 | | 681-82 | 13 Pramādin | | 5 Śrāvapa . |
| 3784 | 605 | 740 | 89 | | 682-83 | 14 Vikrama | | ... |
| 3785 | 606 | 741 | 90 | | 683-84 | 15 Vriha | | ... |
| 3786 | 607 | 742 | 91 | | *684-85 | 16 Chitrabhānu | | 3 Jyēṣṭha . |
| 3787 | 608 | 743 | 92 | | 685-86 | 17 Subhānu | | ... |
| 3788 | 609 | 744 | 93 | | 686-87 | 18 Tārapa | | ... |
| 3789 | 610 | 745 | 94 | | 687-88 | 19 Pārthiva | | 1 Choitra . |
| 3790 | 611 | 746 | 95 | | *688-89 | 20 Vijaya | | ... |
| 3791 | 612 | 747 | 96 | | 689-90 | 21 Sarvajit | | 5 Śrāvapa . |
| 3792 | 613 | 748 | 97 | | 690-91 | 22 Sarvadhārin | | ... |
| 3793 | 614 | 749 | 98 | | 691-92 | 23 Virōdhin | | ... |
| 3794 | 615 | 750 | 99 | | *692-93 | 24 Vikṛita | | 4 Āshāḍha . |
| 3795 | 616 | 751 | 100 | | 693-94 | 25 Khara | | ... |
| 3796 | 617 | 752 | 101 | | 694-95 | * 26 Nandana | | ... |
| 3797 | 618 | 753 | 102 | | 695-96 | 27 Vijaya | | 2 Vaiśākha . |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kāḷ. |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D. | Week-day. | a | b | c | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 19 Mar. (78) | 4 Wed. | 15 40 47 | 17 Mar. (76) | 2 Mon. | 17-6173 | 971-8924 | 270-3762 | 3773 | |
| 18 Mar. (78) | 5 Thur. | 21 52 56 | 6 Mar. (66) | 0 Sat. | 231-9621 | 855-4281 | 242-2907 | 3774 | |
| 19 Mar. (78) | 0 Sat. | 4 5 5 | 23 Feb. (54) | 4 Wed. | 107-6950 | 702-6722 | 211-4676 | 3775 | |
| 19 Mar. (78) | 1 Sun. | 10 17 14 | 14 Mar. (73) | 3 Tues. | 142-3774 | 628-6656 | 262-7781 | 3776 | |
| 19 Mar. (78) | 2 Mon. | 16 29 23 | 3 Mar. (62) | 0 Sat. | 18-1001 | 485-9007 | 231-9548 | 3777 | |
| 18 Mar. (78) | 3 Tues. | 22 41 31 | 20 Feb. (51) | 4 Wed. | 9893-8230 | 333-1537 | 201-1315 | 3778 | |
| 19 Mar. (78) | 5 Thur. | 4 53 40 | 10 Mar. (69) | 3 Tues. | 9928-5054 | 269-1472 | 252-4420 | 3779 | |
| 19 Mar. (78) | 6 Fri. | 11 5 49 | 27 Feb. (58) | 0 Sat. | 9804-2283 | 116-3913 | 221-6188 | 3780 | |
| 19 Mar. (78) | 0 Sat. | 17 17 58 | 18 Mar. (77) | 6 Fri. | 9838-9106 | 52-4848 | 272-9292 | 3781 | |
| 18 Mar. (78) | 1 Sun. | 23 30 7 | 7 Mar. (67) | 4 Wed. | 53-2655 | 935-9205 | 244-8437 | 3782 | |
| 19 Mar. (78) | 3 Tues. | 5 42 16 | 25 Feb. (56) | 2 Mon. | 267-6203 | 819-4561 | 216-7584 | 3783 | |
| 19 Mar. (78) | 4 Wed. | 11 54 25 | 16 Mar. (75) | 1 Sun. | 302-3027 | 755-4496 | 268-6688 | 3784 | |
| 19 Mar. (78) | 5 Thur. | 18 6 34 | 5 Mar. (64) | 5 Thur. | 178-0255 | 602-6936 | 237-5456 | 3785 | |
| 19 Mar. (79) | 0 Sat. | 0 18 43 | 22 Feb. (53) | 2 Mon. | 53-7384 | 449-9378 | 206-4223 | 3786 | |
| 19 Mar. (78) | 1 Sun. | 6 30 52 | 12 Mar. (71) | 1 Sun. | 88-4308 | 385-9312 | 257-7328 | 3787 | |
| 19 Mar. (78) | 2 Mon. | 12 43 1 | 1 Mar. (60) | 5 Thur. | 9964-1536 | 233-1752 | 227-1096 | 3788 | |
| 19 Mar. (78) | 3 Tues. | 18 55 10 | 18 Feb. (49) | 2 Mon. | 9839-8765 | 80-4194 | 196-0863 | 3789 | |
| 19 Mar. (79) | 5 Thur. | 1 7 10 | 8 Mar. (68) | 1 Sun. | 9874-5589 | 16-4127 | 247-3967 | 3790 | |
| 19 Mar. (78) | 6 Fri. | 7 19 28 | 26 Feb. (57) | 6 Fri. | 88-9137 | 890-9484 | 219-3114 | 3791 | |
| 19 Mar. (78) | 0 Sat. | 13 31 37 | 17 Mar. (76) | 5 Thur. | 123-5960 | 835-9419 | 270-6218 | 3792 | |
| 19 Mar. (78) | 1 Sun. | 19 43 46 | 6 Mar. (65) | 2 Mon. | 9999-3189 | 683-1860 | 239-7086 | 3793 | |
| 19 Mar. (79) | 3 Tues. | 1 55 55 | 24 Feb. (55) | 0 Sat. | 213-6738 | 566-7217 | 211-7131 | 3794 | |
| 19 Mar. (78) | 4 Wed. | 8 8 4 | 13 Mar. (72) | 5 Thur. | 9909-7241 | 466-4235 | 230-1858 | 3795 | |
| 19 Mar. (78) | 5 Thur. | 14 29 13 | 2 Mar. (61) | 2 Mon. | 9785-4476 | 313-6675 | 229-4620 | 3796 | |
| 19 Mar. (73) | 6 Fri. | 20 32 22 | 20 Feb. (51) | 0 Sat. | 9999-8918 | 197-2032 | 201-3771 | 3797 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adbhita</i>) and suppressed (<i>kshaya</i>) true lunar months |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3798 | 619 | 754 | 103 | | *696-97 | 28 Jaya | | ... |
| 3799 | 620 | 755 | 104 | | 697-98 | 29 Maumatha | | 6 Bhādrapada |
| 3800 | 621 | 756 | 105 | | 698-99 | 30 Durmukha | | ... |
| 3801 | 622 | 757 | 106 | | 699-700 | 31 Hēmalamba | | ... |
| 3802 | 623 | 758 | 107 | | *700-01 | 32 Vilamba | | 5 Śrāvana . |
| 3803 | 624 | 759 | 108 | | 701-02 | 33 Vikārin | | ... |
| 3804 | 625 | 760 | 109 | | 702-03 | 34 Śārvarin | | ... |
| 3805 | 626 | 761 | 110 | | 703-04 | 35 Plava | | 3 Jyēṣṭha . |
| 3806 | 627 | 762 | 111 | | *704-05 | 36 Śubhakṛit | | ... |
| 3807 | 628 | 763 | 112 | | 705-06 | 37 Sōbhana | | ... |
| 3808 | 629 | 764 | 113 | | 706-07 | 38 Krōdhin | | 1 Chaitra . |
| 3809 | 630 | 765 | 114 | | 707-08 | 39 Vīśāvasu | | ... |
| 3810 | 631 | 766 | 115 | | *708-09 | 40 Parābhava | | 5 Śrāvana . |
| 3811 | 632 | 767 | 116 | | 709-10 | 41 Plavaṅga | | ... |
| 3812 | 633 | 768 | 117 | | 710-11 | 42 Kilaka | | ... |
| 3813 | 634 | 769 | 118 | | 711-12 | 43 Saumya | | 4 Āshāḍha . |
| 3814 | 635 | 770 | 119 | | *712-13 | 44 Sādhāraṇa | | ... |
| 3815 | 636 | 771 | 120 | | 713-14 | 45 Virōdhakṛit | | ... |
| 3816 | 637 | 772 | 121 | | 714-15 | 46 Paridhāvin | | 2 Vaiśākha . |
| 3817 | 638 | 773 | 122 | | 715-16 | 47 Pramādin | | ... |
| 3818 | 639 | 774 | 123 | | *716-17 | 48 Ānanda | | 6 Bhādrapada |
| 3819 | 640 | 775 | 124 | | 717-18 | 49 Rākshasa | | ... |
| 3820 | 641 | 776 | 125 | | 718-19 | 50 Anala | | ... |
| 3821 | 642 | 777 | 126 | | 719-20 | 51 Piṅgala | | 5 Śrāvana . |
| 3822 | 643 | 778 | 127 | | *720-21 | 52 Kālayukta | | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 19 Mar. (79) | 1 Sun. | 2 44 31 | 10 Mar. (70) | 6 Fri. | 34-4841 | 133-1967 | 252-6875 | 3798 |
| 19 Mar. (78) | 2 Mon. | 8 56 40 | 27 Feb. (58) | 3 Tues. | 9910-2070 | 980-4408 | 221-8643 | 3799 |
| 19 Mar. (78) | 3 Tues. | 15 8 49 | 18 Mar. (77) | 2 Mon. | 9944-8894 | 916-4343 | 273-1748 | 3800 |
| 19 Mar. (78) | 4 Wed. | 21 20 58 | 8 Mar. (67) | 0 Sat. | 159-2443 | 799-9700 | 245-0671 | 3801 |
| 19 Mar. (79) | 6 Fri. | 3 33 7 | 25 Feb. (56) | 4 Wed. | 34-9671 | 647-2140 | 214-2440 | 3802 |
| 19 Mar. (78) | 0 Sat. | 9 45 16 | 15 Mar. (74) | 3 Tues. | 69-6496 | 583-2074 | 265-5543 | 3803 |
| 19 Mar. (78) | 1 Sun. | 15 57 25 | 4 Mar. (63) | 0 Sat. | 9945-3723 | 430-4516 | 234-7311 | 3804 |
| 19 Mar. (78) | 2 Mon. | 22 9 34 | 21 Feb. (52) | 4 Wed. | 9821-0852 | 277-6956 | 203-9079 | 3805 |
| 19 Mar. (79) | 4 Wed. | 4 21 43 | 11 Mar. (71) | 3 Tues. | 9855-7778 | 213-6890 | 255-2184 | 3806 |
| 19 Mar. (78) | 5 Thur. | 10 33 52 | 1 Mar. (60) | 1 Sun. | 70-1324 | 97-2248 | 227-1329 | 3807 |
| 19 Mar. (78) | 6 Fri. | 16 46 1 | 18 Feb. (49) | 5 Thur. | 9946-0956 | 944-4986 | 196-3096 | 3808 |
| 19 Mar. (78) | 0 Sat. | 22 58 10 | 9 Mar. (68) | 4 Wed. | 9980-5376 | 880-4623 | 247-6201 | 3809 |
| 19 Mar. (79) | 2 Mon. | 5 10 19 | 27 Feb. (58) | 2 Mon. | 194-8924 | 773-9979 | 219-5348 | 3810 |
| 19 Mar. (78) | 3 Tues. | 11 22 28 | 17 Mar. (76) | 1 Sun. | 230-5748 | 699-9914 | 270-8451 | 3811 |
| 19 Mar. (78) | 4 Wed. | 17 34 37 | 6 Mar. (65) | 5 Thur. | 105-2977 | 547-2355 | 240-0219 | 3812 |
| 19 Mar. (78) | 5 Thur. | 23 46 46 | 23 Feb. (54) | 2 Mon. | 9981-0206 | 394-4796 | 209-1987 | 3813 |
| 19 Mar. (79) | 0 Sat. | 5 58 55 | 13 Mar. (73) | 1 Sun. | 15-7029 | 330-4730 | 260-5092 | 3814 |
| 19 Mar. (78) | 1 Sun. | 12 11 4 | 2 Mar. (61) | 5 Thur. | 9891-4258 | 178-7171 | 229-6859 | 3815 |
| 19 Mar. (78) | 2 Mon. | 18 23 13 | 20 Feb. (51) | 3 Tues. | 105-7806 | 61-2528 | 201-0004 | 3816 |
| 20 Mar. (79) | 4 Wed. | 0 55 22 | 11 Mar. (70) | 2 Mon. | 140-4629 | 997-2402 | 252-9109 | 3817 |
| 19 Mar. (79) | 5 Thur. | 6 47 31 | 28 Feb. (59) | 6 Fri. | 16-1888 | 844-4993 | 222-0877 | 3818 |
| 19 Mar. (78) | 6 Fri. | 12 59 40 | 18 Mar. (77) | 5 Thur. | 50-8682 | 780-4638 | 173-3961 | 3819 |
| 19 Mar. (78) | 0 Sat. | 19 11 49 | 8 Mar. (67) | 3 Tues. | 265-2231 | 664-0195 | 245-3126 | 3820 |
| 20 Mar. (79) | 2 Mon. | 1 23 58 | 25 Feb. (56) | 0 Sat. | 149-9458 | 511-2635 | 214-4695 | 3821 |
| 19 Mar. (79) | 3 Tues. | 7 36 7 | 14 Mar. (74) | 5 Thur. | 9836-9963 | 410-9654 | 263-0622 | 3822 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3823 | 644 | 779 | 128 | | 721-22 | 53 Siddhārthin . . . | | ... |
| 3824 | 645 | 780 | 129 | | 722-23 | 54 Raudra . . . | | 3 Jyēṣṭha |
| 3825 | 646 | 781 | 130 | | 723-24 | 55 Dūrmati . . . | | ... |
| 3826 | 647 | 782 | 131 | | *724-25 | 56 Dandabhi . . . | | { 7 Āsvina 9 Māgha : (<i>ksh</i>) } |
| 3827 | 648 | 783 | 132 | | 725-26 | 57 Rudhīrōdgārin . . . | | 1 Chaitra |
| 3828 | 649 | 784 | 133 | | 726-27 | 58 Raktāksha . . . | | ... |
| 3829 | 650 | 785 | 134 | | 727-28 | 59 Krōdhana . . . | | 5 Śrāvaṇa |
| 3830 | 651 | 786 | 135 | | *728-29 | 60 Kshaya . . . | | ... |
| 3831 | 652 | 787 | 136 | | 729-30 | 1 Prabhava . . . | | ... |
| 3832 | 653 | 788 | 137 | | 730-31 | 2 Vibhava . . . | | 4 Āshāḍha |
| 3833 | 654 | 789 | 138 | | 731-32 | 3 Śukla . . . | | ... |
| 3834 | 655 | 790 | 139 | | *732-33 | 4 Pramōda . . . | | ... |
| 3835 | 656 | 791 | 140 | | 733-34 | 5 Prajāpati . . . | | 2 Vaiśākha |
| 3836 | 657 | 792 | 141 | | 734-35 | 6 Aṅgirasas . . . | | ... |
| 3837 | 658 | 793 | 142 | | 735-36 | 8 Bhāva . . . | | 6 Bhādrapada |
| 3838 | 659 | 794 | 143 | | *736-37 | 9 Yuvana . . . | | ... |
| 3839 | 660 | 795 | 144 | | 737-38 | 10 Dhātṛi . . . | | ... |
| 3840 | 661 | 796 | 145 | | 738-39 | 11 Jivara . . . | | 5 Śrāvaṇa |
| 3841 | 662 | 797 | 146 | | 739-40 | 12 Bahudhānya . . . | | ... |
| 3842 | 663 | 798 | 147 | | *740-41 | 13 Pramādin . . . | | ... |
| 3843 | 664 | 799 | 148 | | 741-42 | 14 Vikrama . . . | | 3 Jyēṣṭha |
| 3844 | 665 | 800 | 149 | | 742-43 | 15 Vriṣha . . . | | ... |
| 3845 | 666 | 801 | 150 | | 743-44 | 16 Chitrabhānu . . . | | { 7 Āsvina 11 Māgha : (<i>ksh</i>) } |
| 3846 | 667 | 802 | 151 | | *744-45 | 17 Subhānu . . . | | 1 Chaitra |
| 3847 | 668 | 803 | 152 | | 745-46 | 18 Tārana . . . | | ... |

† 7 Śrīmuṅka was suppressed.]

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|---|-----------|-----------|----------|----------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS) | | | | | K&E. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 19 Mar. (78) | 4 Wed. | 13 48 15 | 4 Mar. (83) | 3 Tues. | 51-3511 | 294-5011 | 234-9767 | 3823 |
| 19 Mar. (78) | 5 Thur. | 20 0 24 | 21 Feb. (52) | 0 Sat. | 9927-0739 | 141-7452 | 201-1534 | 3824 |
| 20 Mar. (79) | 0 Sat. | 2 12 33 | 12 Mar. (71) | 6 Fri. | 9961-7563 | 77-7385 | 255-4693 | 3825 |
| 19 Mar. (79) | 1 Sun. | 8 24 42 | 1 Mar. (61) | 4 Wed. | 176-1112 | 961-2743 | 227-3786 | 3826 |
| 19 Mar. (78) | 2 Mon. | 14 36 51 | 18 Feb. (49) | 1 Sun. | 51-8342 | 808-5184 | 196-5552 | 3827 |
| 19 Mar. (78) | 3 Tues. | 20 49 0 | 9 Mar. (68) | 0 Sat. | 86-5163 | 744-5118 | 247-8656 | 3828 |
| 20 Mar. (79) | 5 Thur. | 3 1 9 | 26 Feb. (57) | 4 Wed. | 9962-2392 | 591-7559 | 217-6425 | 3829 |
| 19 Mar. (79) | 6 Fri. | 9 13 18 | 16 Mar. (76) | 3 Tues. | 9996-9216 | 527-7493 | 268-3529 | 3830 |
| 19 Mar. (78) | 0 Sat. | 15 25 27 | 5 Mar. (64) | 0 Sat. | 9872-6444 | 374-9934 | 237-5297 | 3831 |
| 19 Mar. (78) | 1 Sun. | 21 37 36 | 22 Feb. (53) | 4 Wed. | 9748-3673 | 222-2374 | 206-7064 | 3832 |
| 20 Mar. (79) | 3 Tues. | 3 49 45 | 13 Mar. (72) | 3 Tues. | 9783-0497 | 158-2309 | 258-6169 | 3833 |
| 19 Mar. (79) | 4 Wed. | 10 1 54 | 2 Mar. (62) | 1 Sun. | 9997-4046 | 41-7606 | 229-9215 | 3834 |
| 19 Mar. (78) | 5 Thur. | 16 14 3 | 20 Feb. (51) | 6 Fri. | 211-7493 | 925-3623 | 201-8460 | 3835 |
| 19 Mar. (78) | 6 Fri. | 22 26 12 | 11 Mar. (70) | 5 Thur. | 246-4417 | 861-2958 | 253-1564 | 3836 |
| 20 Mar. (79) | 1 Sun. | 4 38 21 | 28 Feb. (59) | 2 Mon. | 122-1646 | 708-5398 | 222-3332 | 3837 |
| 19 Mar. (79) | 2 Mon. | 10 50 30 | 18 Mar. (78) | 1 Sun. | 156-8460 | 644-6333 | 274-6437 | 3838 |
| 19 Mar. (78) | 3 Tues. | 17 2 39 | 7 Mar. (66) | 5 Thur. | 32-5698 | 501-7773 | 242-8204 | 3839 |
| 19 Mar. (78) | 4 Wed. | 23 14 48 | 24 Feb. (55) | 2 Mon. | 9908-2026 | 339-0214 | 211-9973 | 3840 |
| 20 Mar. (79) | 6 Fri. | 5 26 57 | 16 Mar. (74) | 1 Sun. | 9942-9751 | 275-0149 | 263-2077 | 3841 |
| 19 Mar. (79) | 0 Sat. | 11 39 6 | 3 Mar. (63) | 5 Thur. | 9818-6978 | 122-2588 | 232-4845 | 3842 |
| 19 Mar. (78) | 1 Sun. | 17 51 15 | 21 Feb. (52) | 3 Tues. | 33-0627 | 5-7947 | 204-3990 | 3843 |
| 20 Mar. (79) | 3 Tues. | 0 3 24 | 12 Mar. (71) | 2 Mon. | 67-7351 | 941-7880 | 255-7105 | 3844 |
| 20 Mar. (79) | 4 Wed. | 6 15 33 | 2 Mar. (61) | 0 Sat. | 282-0906 | 825-3238 | 227-6240 | 3845 |
| 19 Mar. (79) | 5 Thur. | 12 27 42 | 19 Feb. (50) | 4 Wed. | 157-8127 | 672-5678 | 196-8007 | 3846 |
| 19 Mar. (78) | 6 Fri. | 18 39 51 | 9 Mar. (68) | 3 Tues. | 192-4951 | 608-5612 | 248-1112 | 3847 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3848 | 669 | 804 | 153 | | 746-47 | 19 Pārthiva . . . | | 5 Śrāvapa . |
| 3849 | 670 | 805 | 154 | | 747-48 | 20 Vyaya . . . | | ... |
| 3850 | 671 | 806 | 155 | | *748-49 | 21 Sarvajit . . . | | ... |
| 3851 | 672 | 807 | 156 | | 749-50 | 22 Sarvadhārin . . . | | 3 Jyēshtha . |
| 3852 | 673 | 808 | 157 | | 750-51 | 23 Vicōdhin . . . | | ... |
| 3853 | 674 | 809 | 158 | | 751-52 | 24 Vikṛita . . . | | ... |
| 3854 | 675 | 810 | 159 | | *752-53 | 25 Khara . . . | | 2 Vaiśākha . |
| 3855 | 676 | 811 | 160 | | 753-54 | 26 Nandana . . . | | ... |
| 3856 | 677 | 812 | 161 | | 754-55 | 27 Vijaya . . . | | 6 Bhādrapada |
| 3857 | 678 | 813 | 162 | | 755-56 | 28 Jaya . . . | | ... |
| 3858 | 679 | 814 | 163 | | *756-57 | 29 Manmatha . . . | | ... |
| 3859 | 680 | 815 | 164 | | 757-58 | 30 Durmukha . . . | | 4 Āshāḍha . |
| 3860 | 681 | 816 | 165 | | 758-59 | 31 Hāmālamba . . . | | ... |
| 3861 | 682 | 817 | 166 | | 759-60 | 32 Vilamba . . . | | ... |
| 3862 | 683 | 818 | 167 | | *760-61 | 33 Vikārin . . . | | 3 Jyēshtha . |
| 3863 | 684 | 819 | 168 | | 761-62 | 34 Śarvarin . . . | | ... |
| 3864 | 685 | 820 | 169 | | 762-63 | 35 Plava . . . | | 7 Āvina . |
| 3865 | 686 | 821 | 170 | | 763-64 | 36 Śubhakṛit . . . | | ... |
| 3866 | 687 | 822 | 171 | | *764-65 | 37 Śōbbana . . . | | ... |
| 3867 | 688 | 823 | 172 | | 765-66 | 38 Krōdhin . . . | | 5 Śrāvapa . |
| 3868 | 689 | 824 | 173 | | 766-67 | 39 Viśvāvasu . . . | | ... |
| 3869 | 690 | 825 | 174 | | 767-68 | 40 Parābhava . . . | | ... |
| 3870 | 691 | 826 | 175 | | *768-69 | 41 Plavaṅga . . . | | 3 Jyēshtha . |
| 3871 | 692 | 827 | 176 | | 769-70 | 42 Kilaka . . . | | ... |
| 3872 | 693 | 828 | 177 | | 770-71 | 43 Saumya . . . | | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēṣha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 20 Mar. (79) | 1 Sun. | 0 52 0 | 26 Feb. (57) | 0 Sat. | 68-2186 | 455-8054 | 217-2881 | 3843 |
| 20 Mar. (79) | 2 Mon. | 7 4 9 | 17 Mar. (76) | 6 Fri. | 102-9003 | 301-7988 | 268-4984 | 3849 |
| 19 Mar. (79) | 3 Tues. | 13 16 18 | 5 Mar. (65) | 3 Tues. | 9978-0232 | 239-0429 | 237-7752 | 3850 |
| 19 Mar. (78) | 4 Wed. | 19 28 27 | 22 Feb. (53) | 0 Sat. | 9854-3461 | 86-2869 | 206-9520 | 3851 |
| 20 Mar. (79) | 6 Fri. | 1 40 36 | 13 Mar. (72) | 6 Fri. | 9889-0285 | 22-2804 | 258-2625 | 3852 |
| 20 Mar. (79) | 0 Sat. | 7 52 45 | 3 Mar. (62) | 4 Wed. | 103-3833 | 905-8161 | 230-1770 | 3853 |
| 19 Mar. (79) | 1 Sun. | 14 4 54 | 21 Feb. (52) | 2 Mon. | 317-7384 | 789-3518 | 202-6915 | 3854 |
| 19 Mar. (78) | 2 Mon. | 20 17 3 | 10 Mar. (69) | 0 Sat. | 13-7885 | 689-0537 | 250-6642 | 3855 |
| 20 Mar. (79) | 4 Wed. | 2 29 12 | 28 Feb. (59) | 5 Thurs. | 228-1433 | 572-5894 | 222-5788 | 3856 |
| 20 Mar. (79) | 5 Thurs. | 8 41 21 | 18 Mar. (77) | 3 Tues. | 9924-1937 | 472-2911 | 271-1514 | 3857 |
| 19 Mar. (79) | 6 Fri. | 14 53 30 | 6 Mar. (66) | 0 Sat. | 9799-9166 | 319-5352 | 240-3282 | 3858 |
| 19 Mar. (78) | 0 Sat. | 21 5 39 | 24 Feb. (55) | 5 Thurs. | 14-2714 | 203-0709 | 212-2428 | 3859 |
| 20 Mar. (79) | 2 Mon. | 3 17 48 | 15 Mar. (74) | 4 Wed. | 48-9538 | 139-0644 | 263-5533 | 3860 |
| 20 Mar. (79) | 3 Tues. | 9 29 57 | 4 Mar. (63) | 1 Sun. | 9924-6766 | 986-3084 | 232-7300 | 3861 |
| 19 Mar. (79) | 4 Wed. | 15 42 6 | 22 Feb. (53) | 6 Fri. | 139-0515 | 869-8442 | 204-6415 | 3862 |
| 19 Mar. (78) | 5 Thurs. | 21 54 15 | 12 Mar. (71) | 5 Thurs. | 173-7138 | 805-8377 | 255-9550 | 3863 |
| 20 Mar. (79) | 0 Sat. | 4 6 24 | 1 Mar. (60) | 2 Mon. | 49-4367 | 653-0816 | 225-1318 | 3864 |
| 20 Mar. (79) | 1 Sun. | 10 18 33 | 20 Mar. (79) | 1 Sun. | 84-1191 | 599-0751 | 276-4422 | 3865 |
| 19 Mar. (79) | 2 Mon. | 16 30 42 | 8 Mar. (68) | 5 Thurs. | 9959-8420 | 496-3192 | 245-6189 | 3866 |
| 19 Mar. (78) | 3 Tues. | 22 42 51 | 25 Feb. (56) | 2 Mon. | 9835-5647 | 283-5633 | 214-7968 | 3867 |
| 20 Mar. (79) | 5 Thurs. | 4 55 0 | 16 Mar. (75) | 1 Sun. | 9870-2472 | 219-5567 | 266-1062 | 3868 |
| 20 Mar. (79) | 6 Fri. | 11 7 8 | 6 Mar. (65) | 6 Fri. | 84-6020 | 103-0923 | 238-0208 | 3869 |
| 19 Mar. (79) | 0 Sat. | 17 19 17 | 23 Feb. (54) | 3 Tues. | 9960-3248 | 959-3365 | 207-1975 | 3870 |
| 19 Mar. (78) | 1 Sun. | 23 31 26 | 13 Mar. (72) | 2 Mon. | 9995-6072 | 886-3299 | 258-5080 | 3871 |
| 20 Mar. (79) | 3 Tues. | 5 43 35 | 3 Mar. (62) | 0 Sat. | 209-3621 | 769-8656 | 230-4226 | 3872 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|------------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | Jovian Samvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3873 | 694 | 829 | 178 | | 771-72 | 44 Sādhāraṇa . . . | | 2 Vaiśākha . |
| 3874 | 695 | 830 | 179 | | *772-73 | 45 Virōdhakrit . . . | | ... |
| 3875 | 696 | 831 | 180 | | 773-74 | 46 Paridhāvin . . . | | 6 Bhādrapada |
| 3876 | 697 | 832 | 181 | | 774-75 | 47 Pramādin . . . | | ... |
| 3877 | 698 | 833 | 182 | | 775-76 | 48 Ānanda . . . | | ... |
| 3878 | 699 | 834 | 183 | | *776-77 | 49 Rākṣasa . . . | | 4 Āshāḍha . |
| 3879 | 700 | 835 | 184 | | 777-78 | 50 Anala . . . | | ... |
| 3880 | 701 | 836 | 185 | | 778-79 | 51 Piṅgala . . . | | ... |
| 3881 | 702 | 837 | 186 | | 779-80 | 52 Kālayukta . . . | | 3 Jyēṣṭha |
| 3882 | 703 | 838 | 187 | | *780-81 | 53 Siddhārtha . . . | | ... |
| 3883 | 704 | 839 | 188 | | 781-82 | 54 Raudra . . . | | 7 Āsvina . |
| 3884 | 705 | 840 | 189 | | 782-83 | 55 Darmatī . . . | | ... |
| 3885 | 706 | 841 | 190 | | 783-84 | 56 Dandubhī . . . | | ... |
| 3886 | 707 | 842 | 191 | | *784-85 | 57 Rudhīrōdgārin . . . | | 5 Śrāvaṇa . |
| 3887 | 708 | 843 | 192 | | 785-86 | 58 Raktākṣa . . . | | ... |
| 3888 | 709 | 844 | 193 | | 786-87 | 59 Krōdhana . . . | | ... |
| 3889 | 710 | 845 | 194 | | *787-88 | 60 Kṣaya . . . | | 3 Jyēṣṭha . |
| 3890 | 711 | 846 | 195 | | *788-89 | 1 Prabhava . . . | | ... |
| 3891 | 712 | 847 | 196 | | 789-90 | 2 Vibhava . . . | | ... |
| 3892 | 713 | 848 | 197 | | 790-91 | 3 Śukla . . . | | 2 Vaiśākha . |
| 3893 | 714 | 849 | 198 | | 791-92 | 4 Pramōda . . . | | ... |
| 3894 | 715 | 850 | 199 | | *792-93 | 5 Prajāpati . . . | | 6 Bhādrapada |
| 3895 | 716 | 851 | 200 | | 793-94 | 6 Āngīra . . . | | ... |
| 3896 | 717 | 852 | 201 | | 794-95 | 7 Śrīmukha . . . | | ... |
| 3897 | 718 | 853 | 202 | | 795-96 | 8 Bhāva . . . | | 4 Āshāḍha . |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|------------|-------------------------------|--|------------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 20 Mar. (79) | 4 Wed. . | 11 53 44 | 20 Feb. (51) | 4 Wed. . | 75-0849 | 617-1607 | 199-5993 | 3873 |
| 19 Mar. (79) | 5 Thurs. . | 18 7 53 | 10 Mar. (70) | 3 Tues. . | 119-7672 | 553-1632 | 230-9697 | 3874 |
| 20 Mar. (79) | 6 Sat. . | 0 20 2 | 27 Feb. (58) | 6 Sat. . | 9995-4901 | 400-3472 | 220-0866 | 3875 |
| 20 Mar. (79) | 1 Sun. . | 6 32 11 | 18 Mar. (77) | 6 Fri. . | 30-1725 | 326-3366 | 271-3976 | 3876 |
| 20 Mar. (79) | 2 Mon. . | 12 44 20 | 7 Mar. (66) | 3 Tues. . | 9905-8953 | 183-5848 | 240-5738 | 3877 |
| 19 Mar. (79) | 3 Tues. . | 18 56 29 | 25 Feb. (56) | 1 Sun. . | 120-2501 | 67-1204 | 212-4883 | 3878 |
| 20 Mar. (79) | 5 Thurs. . | 1 8 38 | 15 Mar. (74) | 6 Sat. . | 154-9326 | 3-1139 | 263-7988 | 3879 |
| 20 Mar. (79) | 6 Fri. . | 7 20 47 | 4 Mar. (63) | 4 Wed. . | 30-6534 | 850-3579 | 232-9756 | 3880 |
| 20 Mar. (79) | 6 Sat. . | 13 32 56 | 22 Feb. (53) | 2 Mon. . | 245-0102 | 733-8937 | 204-8901 | 3881 |
| 19 Mar. (79) | 1 Sun. . | 19 45 5 | 12 Mar. (72) | 1 Sun. . | 279-6926 | 669-8872 | 236-2005 | 3882 |
| 20 Mar. (79) | 3 Tues. . | 1 57 14 | 1 Mar. (60) | 5 Thurs. . | 155-4155 | 517-1311 | 225-3773 | 3883 |
| 20 Mar. (79) | 4 Wed. . | 8 9 23 | 19 Mar. (78) | 3 Tues. . | 9851-4659 | 416-8330 | 273-9500 | 3884 |
| 20 Mar. (79) | 5 Thurs. . | 14 21 32 | 8 Mar. (67) | 6 Sat. . | 9727-1887 | 264-9770 | 243-1167 | 3885 |
| 19 Mar. (79) | 6 Fri. . | 20 33 41 | 26 Feb. (57) | 5 Thurs. . | 9941-5435 | 147-6128 | 215-0413 | 3886 |
| 20 Mar. (79) | 1 Sun. . | 2 45 50 | 16 Mar. (75) | 4 Wed. . | 9976-2260 | 83-6062 | 266-3517 | 3887 |
| 20 Mar. (79) | 2 Mon. . | 8 57 59 | 6 Mar. (65) | 2 Mon. . | 190-5807 | 967-1418 | 238-2664 | 3888 |
| 20 Mar. (79) | 3 Tues. . | 15 10 8 | 23 Feb. (54) | 6 Fri. . | 66-3036 | 814-3852 | 207-4431 | 3889 |
| 19 Mar. (79) | 4 Wed. . | 21 22 17 | 13 Mar. (73) | 5 Thurs. . | 100-9860 | 750-3794 | 258-7535 | 3890 |
| 20 Mar. (79) | 6 Fri. . | 3 34 26 | 2 Mar. (61) | 2 Mon. . | 9976-7089 | 597-6235 | 227-9303 | 3891 |
| 20 Mar. (79) | 6 Sat. . | 9 46 35 | 19 Feb. (50) | 6 Fri. . | 9852-4317 | 444-8676 | 197-1671 | 3892 |
| 20 Mar. (79) | 1 Sun. . | 15 58 44 | 10 Mar. (69) | 5 Thurs. . | 9887-1140 | 380-8610 | 248-4175 | 3893 |
| 19 Mar. (79) | 2 Mon. . | 22 16 53 | 27 Feb. (58) | 2 Mon. . | 9762-8369 | 228-1651 | 218-4943 | 3894 |
| 20 Mar. (79) | 4 Wed. . | 4 23 2 | 17 Mar. (76) | 1 Sun. . | 9797-5192 | 164-0986 | 268-0047 | 3895 |
| 20 Mar. (79) | 5 Thurs. . | 10 35 11 | 7 Mar. (66) | 6 Fri. . | 11-8741 | 47-6342 | 240-8194 | 3896 |
| 20 Mar. (79) | 6 Fri. . | 16 47 20 | 25 Feb. (56) | 4 Wed. . | 226-2280 | 931-1699 | 212-7339 | 3897 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A. D. | JUVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3898 | 719 | 854 | 203 | | *796-97 | 9 Yuvan . . . | | ... |
| 3899 | 720 | 855 | 204 | | 797-98 | 10 Dhātṛi . . . | | ... |
| 3900 | 721 | 856 | 205 | | 798-99 | 11 Isvara . . . | | 3 Jyēṣṭha . |
| 3901 | 722 | 857 | 206 | | 799-800 | 12 Bahudhānya . . | | ... |
| 3902 | 723 | 858 | 207 | | *800-01 | 13 Pramādin . . . | | 7 Āsvina . |
| 3903 | 724 | 859 | 208 | | 801-02 | 14 Vikrama . . . | | ... |
| 3904 | 725 | 860 | 209 | | 802-03 | 15 Vṛiṣa . . . | | ... |
| 3905 | 726 | 861 | 210 | | 803-04 | 16 Chitrabhānu . . | | 5 Śrāvapa . |
| 3906 | 727 | 862 | 211 | | *804-05 | 17 Subhānu . . . | | ... |
| 3907 | 728 | 863 | 212 | | 805-06 | 18 Tāraṇa . . . | | ... |
| 3908 | 729 | 864 | 213 | | 806-07 | 19 Pārthiva . . . | | 3 Jyēṣṭha . |
| 3909 | 730 | 865 | 214 | | 807-08 | 20 Vyaya . . . | | ... |
| 3910 | 731 | 866 | 215 | | *808-09 | 21 Sarvajit . . . | | ... |
| 3911 | 732 | 867 | 216 | | 809-10 | 22 Sarvadhārin . . | | 1 Chaitra . |
| 3912 | 733 | 868 | 217 | | 810-11 | 23 Virōdhin . . . | | ... |
| 3913 | 734 | 869 | 218 | | 811-12 | 24 Vikṛita . . . | | 5 Śrāvapa . |
| 3914 | 735 | 870 | 219 | | *812-13 | 25 Khara . . . | | ... |
| 3915 | 736 | 871 | 220 | | 813-14 | 26 Nandana . . . | | ... |
| 3916 | 737 | 872 | 221 | | 814-15 | 27 Vijaya . . . | | 4 Āśvādha . |
| 3917 | 738 | 873 | 222 | | 815-16 | 28 Jaya . . . | | ... |
| 3918 | 739 | 874 | 223 | | *816-17 | 29 Manmatha . . . | | ... |
| 3919 | 740 | 875 | 224 | | 817-18 | 30 Durmukha . . . | | 3 Jyēṣṭha . |
| 3920 | 741 | 876 | 225 | | 818-19 | 31 Hēmalamba . . | | ... |
| 3921 | 742 | 877 | 226 | | 819-20 | 32 Vilamba † . . . | | 1 Āsvina . |
| 3922 | 743 | 878 | 227 | | *820-21 | 34 Śārvaria . . . | | ... |

† 33 Vikārin was suppressed.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Kali. |
|---------------------|-----------|---------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | | |
| Day and month A. D. | Week-day. | Time of true Mēsha-sadh-krānti. | Day and month A. D. | Week-day. | a | b | c | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 19 Mar. (79) | 0 Sat. . | 22 59 29 | 15 Mar. (75) | 3 Tues. . | 260-9113 | 867-1634 | 264-0442 | 3898 | |
| 20 Mar. (79) | 2 Mon. . | 5 11 38 | 4 Mar. (63) | 0 Sat. . | 136-6341 | 714-4074 | 233-2211 | 3899 | |
| 20 Mar. (79) | 3 Tues. . | 11 23 47 | 21 Feb. (52) | 4 Wed. . | 12-3570 | 561-6515 | 202-3979 | 3900 | |
| 20 Mar. (79) | 4 Wed. . | 17 35 56 | 12 Mar. (71) | 3 Tues. . | 47-0394 | 497-6449 | 253-6621 | 3901 | |
| 19 Mar. (79) | 5 Thur. . | 23 48 5 | 19 Feb. (60) | 0 Sat. . | 9922-7623 | 344-8890 | 222-8629 | 3902 | |
| 20 Mar. (79) | 0 Sat. . | 6 0 14 | 19 Mar. (78) | 6 Fri. . | 9957-4347 | 280-8825 | 274-1733 | 3903 | |
| 20 Mar. (79) | 1 Sun. . | 12 12 23 | 8 Mar. (67) | 3 Tues. . | 3833-1675 | 128-1265 | 243-3500 | 3904 | |
| 20 Mar. (79) | 2 Mon. . | 18 24 32 | 26 Feb. (57) | 1 Sun. . | 47-5223 | 11-6622 | 215-2647 | 3905 | |
| 20 Mar. (80) | 4 Wed. . | 0 36 41 | 16 Mar. (76) | 0 Sat. . | 82-2048 | 947-6557 | 266-5751 | 3906 | |
| 20 Mar. (79) | 5 Thur. . | 6 48 50 | 6 Mar. (65) | 5 Thur. . | 296-5595 | 831-1914 | 238-4897 | 3907 | |
| 20 Mar. (79) | 6 Fri. . | 13 0 59 | 23 Feb. (54) | 2 Mon. . | 172-2824 | 678-4354 | 207-6664 | 3908 | |
| 20 Mar. (79) | 0 Sat. . | 19 13 8 | 14 Mar. (73) | 1 Sun. . | 266-9648 | 614-4289 | 258-9769 | 3909 | |
| 20 Mar. (80) | 2 Mon. . | 1 25 17 | 2 Mar. (62) | 5 Thur. . | 82-6876 | 461-6730 | 228-1537 | 3910 | |
| 20 Mar. (79) | 3 Tues. . | 7 37 26 | 19 Feb. (50) | 2 Mon. . | 9058-4105 | 308-9171 | 197-3304 | 3911 | |
| 20 Mar. (79) | 4 Wed. . | 13 49 35 | 10 Mar. (69) | 1 Sun. . | 9993-0928 | 244-9104 | 248-0408 | 3912 | |
| 20 Mar. (79) | 5 Thur. . | 20 1 44 | 27 Feb. (58) | 5 Thur. . | 9868-8157 | 92-1545 | 217-8177 | 3913 | |
| 20 Mar. (80) | 0 Sat. . | 2 13 52 | 17 Mar. (77) | 4 Wed. . | 9903-4980 | 28-1481 | 269-1281 | 3914 | |
| 20 Mar. (79) | 1 Sun. . | 8 26 1 | 7 Mar. (66) | 2 Mon. . | 117-8529 | 906-6837 | 251-0427 | 3915 | |
| 26 Mar. (79) | 2 Mon. . | 14 38 10 | 24 Feb. (55) | 6 Fri. . | 9993-5738 | 758-9278 | 210-2194 | 3916 | |
| 20 Mar. (79) | 3 Tues. . | 20 50 19 | 15 Mar. (74) | 5 Thur. . | 28-2581 | 694-9212 | 264-5299 | 3917 | |
| 20 Mar. (80) | 5 Thur. . | 3 2 28 | 3 Mar. (63) | 2 Mon. . | 9903-9810 | 542-1653 | 230-7067 | 3918 | |
| 20 Mar. (79) | 6 Fri. . | 9 14 37 | 21 Feb. (52) | 0 Sat. . | 118-3358 | 425-7009 | 202-6212 | 3919 | |
| 20 Mar. (79) | 0 Sat. . | 15 26 46 | 11 Mar. (70) | 5 Thur. . | 9814-3862 | 325-4028 | 251-1938 | 3920 | |
| 20 Mar. (79) | 1 Sun. . | 21 38 55 | 1 Mar. (60) | 3 Tues. . | 28-7410 | 208-9389 | 223-1084 | 3921 | |
| 20 Mar. (80) | 3 Tues. . | 3 51 4 | 19 Mar. (79) | 2 Mon. . | 63-4234 | 144-9321 | 274-3950 | 3922 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A. D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3923 | 744 | 879 | 228 | | 821-22 | 35 <i>Plava</i> | | ... |
| 3924 | 745 | 880 | 229 | | 822-23 | 36 <i>Śubhakṛit</i> | | 5 Śrāvapa . |
| 3925 | 746 | 881 | 230 | | 823-24 | 37 <i>Śādhana</i> | | ... |
| 3926 | 747 | 882 | 231 | | *824-25 | 38 <i>Krōdhin</i> | | ... |
| 3927 | 748 | 883 | 232 | 0-1 | 825-26 | 39 <i>Vīśvāvasu</i> | | 3 Jyēsthā . |
| 3928 | 749 | 884 | 233 | 1-2 | 826-27 | 40 <i>Parābhava</i> | | ... |
| 3929 | 750 | 885 | 234 | 2-3 | 827-28 | 41 <i>Plavaṅga</i> | | ... |
| 3930 | 751 | 886 | 235 | 3-4 | *828-29 | 42 <i>Kīlaka</i> | | 1 Chaitra . |
| 3931 | 752 | 887 | 236 | 4-5 | 829-30 | 43 <i>Saumya</i> | | ... |
| 3932 | 753 | 888 | 237 | 5-6 | 830-31 | 44 <i>Sādhārāṇa</i> | | 5 Śrāvapa . |
| 3933 | 754 | 889 | 238 | 6-7 | 831-32 | 45 <i>Virōdhakṛit</i> | | ... |
| 3934 | 755 | 890 | 239 | 7-8 | *832-33 | 46 <i>Paridhāvin</i> | | ... |
| 3935 | 756 | 891 | 240 | 8-9 | 833-34 | 47 <i>Pramādic</i> | | 4 Āshāḍha . |
| 3936 | 757 | 892 | 241 | 9-10 | 834-35 | 48 <i>Ānanda</i> | | ... |
| 3937 | 758 | 893 | 242 | 10-11 | 835-36 | 49 <i>Rākshasa</i> | | ... |
| 3938 | 759 | 894 | 243 | 11-12 | *836-37 | 50 <i>Anala</i> | | 2 Vaiśākha . |
| 3939 | 760 | 895 | 244 | 12-13 | 837-38 | 51 <i>Pīṅga</i> | | ... |
| 3940 | 761 | 896 | 245 | 13-14 | 838-39 | 52 <i>Kālayukta</i> | | 6 Bhādrapada |
| 3941 | 762 | 897 | 246 | 14-15 | 839-40 | 53 <i>Siddhāntin</i> | | ... |
| 3942 | 763 | 898 | 247 | 15-16 | *840-41 | 54 <i>Raudra</i> | | ... |
| 3943 | 764 | 899 | 248 | 16-17 | 841-42 | 55 <i>Durmati</i> | | 5 Śrāvapa . |
| 3944 | 765 | 900 | 249 | 17-18 | 842-43 | 56 <i>Dandubhi</i> | | ... |
| 3945 | 766 | 901 | 250 | 18-19 | 843-44 | 57 <i>Rudhirōdgārin</i> | | ... |
| 3946 | 767 | 902 | 251 | 19-20 | *844-45 | 58 <i>Raktāksha</i> | | 3 Jyēsthā . |
| 3947 | 768 | 903 | 252 | 20-21 | 845-46 | 59 <i>Kośhana</i> | | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D. | Week-day. | a. | b. | c. | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | i |
| | | H. M. S. | | | | | | |
| 20 Mar. (79) | 4 Wed. | 10 3 13 | 8 Mar. (57) | 6 Fri. | 9939-1403 | 992-1760 | 243-5956 | 3923 |
| 20 Mar. (79) | 5 Thur. | 16 15 22 | 26 Feb. (57) | 4 Wed. | 153-5010 | 875-7118 | 215-5102 | 3924 |
| 20 Mar. (79) | 6 Fri. | 22 27 31 | 17 Mar. (76) | 3 Tues. | 188-1834 | 811-7052 | 206-8206 | 3925 |
| 20 Mar. (80) | 1 Sun. | 4 39 40 | 5 Mar. (65) | 0 Sat. | 63-9063 | 658-9493 | 235-9975 | 3926 |
| 20 Mar. (79) | 2 Mon. | 10 51 49 | 22 Feb. (53) | 4 Wed. | 9939-6292 | 500-1933 | 205-1642 | 3927 |
| 20 Mar. (79) | 3 Tues. | 17 3 58 | 13 Mar. (72) | 3 Tues. | 9974-3115 | 442-1868 | 256-4846 | 3928 |
| 20 Mar. (79) | 4 Wed. | 23 16 7 | 2 Mar. (61) | 0 Sat. | 9850-0344 | 289-4309 | 225-6614 | 3929 |
| 20 Mar. (80) | 6 Fri. | 5 28 16 | 20 Feb. (51) | 5 Thur. | 54-6503 | 172-9666 | 197-5760 | 3930 |
| 20 Mar. (79) | 0 Sat. | 11 40 25 | 10 Mar. (69) | 4 Wed. | 98-8615 | 108-9590 | 248-8864 | 3931 |
| 20 Mar. (79) | 1 Sun. | 17 52 34 | 27 Feb. (58) | 1 Sun. | 9974-7944 | 956-2040 | 218-0632 | 3932 |
| 21 Mar. (80) | 3 Tues. | 0 4 43 | 18 Mar. (77) | 0 Sat. | 9-4768 | 892-1975 | 260-3736 | 3933 |
| 20 Mar. (80) | 4 Wed. | 6 16 52 | 7 Mar. (67) | 5 Thur. | 223-8317 | 775-7333 | 241-2883 | 3934 |
| 20 Mar. (79) | 5 Thur. | 12 29 1 | 24 Feb. (55) | 2 Mon. | 99-5545 | 622-9773 | 210-4050 | 3935 |
| 20 Mar. (79) | 6 Fri. | 18 41 10 | 15 Mar. (74) | 1 Sun. | 134-2369 | 553-9708 | 261-7754 | 3936 |
| 21 Mar. (80) | 1 Sun. | 0 53 19 | 4 Mar. (63) | 5 Thur. | 9-9598 | 406-2148 | 230-6522 | 3937 |
| 20 Mar. (80) | 2 Mon. | 7 5 28 | 21 Feb. (52) | 2 Mon. | 9885-6826 | 253-4589 | 206-1290 | 3938 |
| 20 Mar. (79) | 3 Tues. | 13 17 37 | 11 Mar. (70) | 1 Sun. | 9920-3649 | 189-4523 | 252-4294 | 3939 |
| 20 Mar. (79) | 4 Wed. | 19 29 46 | 28 Feb. (59) | 5 Thur. | 9796-0878 | 36-6964 | 220-6162 | 3940 |
| 21 Mar. (80) | 6 Fri. | 1 41 55 | 20 Mar. (79) | 5 Thur. | 169-4022 | 8-9816 | 274-6644 | 3941 |
| 20 Mar. (80) | 0 Sat. | 7 54 4 | 8 Mar. (68) | 2 Mon. | 45-1250 | 856-2255 | 243-8412 | 3942 |
| 20 Mar. (79) | 1 Sun. | 14 6 13 | 26 Feb. (57) | 0 Sat. | 259-4798 | 739-7613 | 215-7358 | 3943 |
| 20 Mar. (79) | 2 Mon. | 20 18 22 | 17 Mar. (76) | 6 Fri. | 294-1622 | 675-7547 | 267-0662 | 3944 |
| 21 Mar. (80) | 4 Wed. | 2 30 31 | 6 Mar. (65) | 3 Tues. | 169-8851 | 522-9988 | 236-0090 | 3945 |
| 20 Mar. (80) | 5 Thur. | 8 42 40 | 23 Feb. (54) | 0 Sat. | 45-5979 | 370-2428 | 205-4197 | 3946 |
| 20 Mar. (79) | 6 Fri. | 14 54 49 | 12 Mar. (71) | 5 Thur. | 9741-6583 | 260-9446 | 253-9924 | 3947 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitradī Vikrama. | Māhādī solar year in Bengal. | Kollam. | A. D. | Jovian Sāmvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3948 | 769 | 904 | 253 | 21-22 | 846-47 | 60 Kshaya | . | ... |
| 3949 | 770 | 905 | 254 | 22-23 | 847-48 | 1 Prabhava | . | 1 Chaitra |
| 3950 | 771 | 906 | 255 | 23-24 | *848-49 | 2 Vibhava | . | ... |
| 3951 | 772 | 907 | 256 | 24-25 | 849-50 | 3 Śukla | . | 5 Śrāvaga |
| 3952 | 773 | 908 | 257 | 25-26 | 850-51 | 4 Pramōda | . | ... |
| 3953 | 774 | 909 | 258 | 26-27 | 851-52 | 5 Prajāpati | . | ... |
| 3954 | 775 | 910 | 259 | 27-28 | *852-53 | 6 Aṅgiras | . | 4 Āshāḍha |
| 3955 | 776 | 911 | 260 | 28-29 | 853-54 | 7 Śrimukha | . | ... |
| 3956 | 777 | 912 | 261 | 29-30 | 854-55 | 8 Bhāva | . | ... |
| 3957 | 778 | 913 | 262 | 30-31 | 855-56 | 9 Yuvan | . | 2 Vaiśākha |
| 3958 | 779 | 914 | 263 | 31-32 | *856-57 | 10 Dhātri | . | ... |
| 3959 | 780 | 915 | 264 | 32-33 | 857-58 | 11 Jvara | . | 6 Bhādrapada |
| 3960 | 781 | 916 | 265 | 33-34 | 858-59 | 12 Bahudhānya | . | ... |
| 3961 | 782 | 917 | 266 | 34-35 | 859-60 | 13 Pramādin | . | ... |
| 3962 | 783 | 918 | 267 | 35-36 | *860-61 | 14 Vikrama | . | 5 Śrāvaga |
| 3963 | 784 | 919 | 268 | 36-37 | 861-62 | 15 Vriśha | . | ... |
| 3964 | 785 | 920 | 269 | 37-38 | 862-63 | 16 Chitrabhānu | . | ... |
| 3965 | 786 | 921 | 270 | 38-39 | 863-64 | 17 Subhānu | . | 3 Jyēṣṭha |
| 3966 | 787 | 922 | 271 | 39-40 | *864-65 | 18 Tāraka | . | ... |
| 3967 | 788 | 923 | 272 | 40-41 | 865-66 | 19 Pārthiva | . | { 7 Āvina 9 Mārgaśīrṣa : (<i>ksh</i>) } |
| 3968 | 789 | 924 | 273 | 41-42 | 866-67 | 20 Vyaya | . | 1 Chaitra |
| 3969 | 790 | 925 | 274 | 42-43 | 867-68 | 21 Sarvajit | . | ... |
| 3970 | 791 | 926 | 275 | 43-44 | *868-69 | 22 Sarvadhārm | . | 5 Śrāvaga |
| 3971 | 792 | 927 | 276 | 44-45 | 869-70 | 23 Virōdhin | . | ... |
| 3972 | 793 | 928 | 277 | 45-46 | 870-71 | 24 Vikrita | . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | Kali. |
| Day and month A.D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| 20 Mar. (79) | 0 Sat. | H. M. S. 21 6 58 | 2 Mar. (61) | 3 Tues. | 9956-0132 | 153-4804 | 226-0070 | 3948 |
| 21 Mar. (80) | 2 Mon. | 3 19 7 | 19 Feb. (50) | 0 Sat. | 9832-2107 | 0-7839 | 195-0837 | 3949 |
| 20 Mar. (80) | 3 Tues. | 9 31 16 | 10 Mar. (70) | 0 Sat. | 205-0503 | 973-0093 | 249-2319 | 3950 |
| 20 Mar. (79) | 4 Wed. | 15 43 25 | 27 Feb. (58) | 4 Wed. | 80-7732 | 820-2535 | 218-4088 | 3951 |
| 20 Mar. (79) | 5 Thur. | 21 55 34 | 18 Mar. (77) | 3 Tues. | 115-4556 | 756-2470 | 269-6192 | 3952 |
| 21 Mar. (80) | 0 Sat. | 4 7 43 | 7 Mar. (66) | 0 Sat. | 9991-1784 | 603-4911 | 238-7960 | 3953 |
| 20 Mar. (80) | 1 Sun. | 10 19 52 | 24 Feb. (55) | 4 Wed. | 9866-9013 | 430-7353 | 207-9727 | 3954 |
| 20 Mar. (79) | 2 Mon. | 16 32 1 | 14 Mar. (73) | 3 Tues. | 9900-5837 | 386-7256 | 259-2832 | 3955 |
| 20 Mar. (79) | 3 Tues. | 22 49 10 | 3 Mar. (62) | 0 Sat. | 9777-3065 | 233-0727 | 228-4600 | 3956 |
| 21 Mar. (80) | 5 Thur. | 4 56 19 | 21 Feb. (52) | 5 Thur. | 9991-6613 | 117-5084 | 200-3745 | 3957 |
| 20 Mar. (80) | 6 Fri. | 11 8 28 | 11 Mar. (71) | 4 Wed. | 26-3437 | 53-5018 | 251-6849 | 3958 |
| 20 Mar. (79) | 0 Sat. | 17 20 37 | 1 Mar. (60) | 2 Mon. | 240-4285 | 937-0375 | 223-5995 | 3959 |
| 20 Mar. (79) | 1 Sun. | 23 32 45 | 20 Mar. (79) | 1 Sun. | 275-3809 | 873-0310 | 274-9100 | 3960 |
| 21 Mar. (80) | 3 Tues. | 5 44 54 | 9 Mar. (68) | 5 Thur. | 151-1038 | 720-2751 | 244-0867 | 3961 |
| 20 Mar. (80) | 4 Wed. | 11 57 3 | 26 Feb. (57) | 2 Mon. | 26-8266 | 567-5191 | 213-2635 | 3962 |
| 20 Mar. (79) | 5 Thur. | 18 9 12 | 16 Mar. (75) | 1 Sun. | 61-5090 | 503-3126 | 264-5739 | 3963 |
| 21 Mar. (80) | 0 Sat. | 0 21 21 | 5 Mar. (64) | 5 Thur. | 9937-2318 | 350-7566 | 233-5708 | 3964 |
| 21 Mar. (80) | 1 Sun. | 6 33 30 | 22 Feb. (53) | 2 Mon. | 9812-9547 | 198-0007 | 202-9275 | 3965 |
| 20 Mar. (80) | 2 Mon. | 12 45 39 | 12 Mar. (72) | 1 Sun. | 9847-6371 | 132-0941 | 254-2379 | 3966 |
| 20 Mar. (79) | 3 Tues. | 18 57 48 | 2 Mar. (61) | 6 Fri. | 61-9919 | 17-5299 | 226-1525 | 3967 |
| 21 Mar. (80) | 5 Thur. | 1 9 57 | 19 Feb. (50) | 3 Tues. | 9937-7149 | 864-7741 | 195-3293 | 3968 |
| 21 Mar. (80) | 6 Fri. | 7 22 6 | 11 Mar. (70) | 3 Tues. | 311-0291 | 837-0590 | 249-3775 | 3969 |
| 20 Mar. (80) | 0 Sat. | 13 34 15 | 28 Feb. (59) | 0 Sat. | 186-7519 | 684-3031 | 218-5543 | 3970 |
| 20 Mar. (79) | 1 Sun. | 19 46 24 | 18 Mar. (77) | 6 Fri. | 221-4343 | 620-2955 | 269-8647 | 3971 |
| 21 Mar. (80) | 3 Tues. | 1 58 33 | 7 Mar. (66) | 3 Tues. | 97-1572 | 467-5406 | 239-0416 | 3972 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>Kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3973 | 794 | 929 | 278 | 46-47 | 871-72 | 25 Khara . . . | | 4 Āshāḍha . |
| 3974 | 795 | 930 | 279 | 47-48 | *872-73 | 26 Nandana . . . | | ... |
| 3975 | 796 | 931 | 280 | 48-49 | 873-74 | 27 Vijaya . . . | | ... |
| 3976 | 797 | 932 | 281 | 49-50 | 874-75 | 28 Jaya . . . | | 2 Vaiśākha . |
| 3977 | 798 | 933 | 282 | 50-51 | 875-76 | 29 Manmatha . . . | | ... |
| 3978 | 799 | 934 | 283 | 51-52 | *876-77 | 30 Durmukha . . . | | 6 Bhādrapada |
| 3979 | 800 | 935 | 284 | 52-53 | 877-78 | 31 Hēmalamba . . . | | ... |
| 3980 | 801 | 936 | 285 | 53-54 | 878-79 | 32 Vilamba . . . | | ... |
| 3981 | 802 | 937 | 286 | 54-55 | 879-80 | 33 Vikārin . . . | | 5 Śrāvaṇa . |
| 3982 | 803 | 938 | 287 | 55-56 | *880-81 | 34 Śārvarin . . . | | ... |
| 3983 | 804 | 939 | 288 | 56-57 | 881-82 | 35 Plava . . . | | ... |
| 3984 | 805 | 940 | 289 | 57-58 | 882-83 | 36 Śubhakṛit . . . | | 3 Jyēṣṭha . |
| 3985 | 806 | 941 | 290 | 58-59 | *883-84 | 37 Śobhana . . . | | ... |
| 3986 | 807 | 942 | 291 | 59-60 | *884-85 | 38 Krōḍhin . . . | | { 7 Āvina . . . 10 Pausa (<i>ksh.</i>) } |
| 3987 | 808 | 943 | 292 | 60-61 | 885-86 | 39 Viśvāvasu . . . | | 1 Chaitra . |
| 3988 | 809 | 944 | 293 | 61-62 | 886-87 | 40 Paribhava . . . | | ... |
| 3989 | 810 | 945 | 294 | 62-63 | 887-88 | 41 Plavaṅga . . . | | 5 Śrāvaṇa . |
| 3990 | 811 | 946 | 295 | 63-64 | *888-89 | 42 Kilaka . . . | | ... |
| 3991 | 812 | 947 | 296 | 64-65 | 889-90 | 43 Saumya . . . | | ... |
| 3992 | 813 | 948 | 297 | 65-66 | 890-91 | 44 Sādhārana . . . | | 3 Jyēṣṭha . |
| 3993 | 814 | 949 | 298 | 66-67 | 891-92 | 45 Virōdhakṛit . . . | | ... |
| 3994 | 815 | 950 | 299 | 67-68 | *892-93 | 46 Paridhavin . . . | | ... |
| 3995 | 816 | 951 | 300 | 68-69 | 893-94 | 47 Pramādin . . . | | 2 Vaiśākha . |
| 3996 | 817 | 952 | 331 | 69-70 | 894-95 | 48 Ānanda . . . | | ... |
| 3997 | 818 | 953 | 302 | 70-71 | 895-96 | 49 Rākshasa . . . | | 6 Bhādrapada |

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| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kal. |
| Day and month A. D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 21 Mar. (80) | 4 Wed. | 8 10 42 | 24 Feb. (55) | 0 Sat. | 9972-8801 | 313-7846 | 208-2183 | 3973 |
| 20 Mar. (80) | 5 Thur. | 14 22 51 | 14 Mar. (74) | 6 Fri. | 7-5624 | 250-7781 | 259-5087 | 3974 |
| 20 Mar. (79) | 6 Fri. | 20 35 0 | 3 Mar. (62) | 3 Tues. | 9883-2853 | 98-0222 | 228-7055 | 3975 |
| 21 Mar. (80) | 1 Sun. | 2 47 9 | 21 Feb. (52) | 1 Sun. | 97-6401 | 981-5579 | 206-6101 | 3976 |
| 21 Mar. (80) | 2 Mon. | 8 59 18 | 12 Mar. (71) | 0 Sat. | 132-3224 | 917-5514 | 251-9305 | 3977 |
| 20 Mar. (80) | 3 Tues. | 15 11 27 | 29 Feb. (60) | 4 Wed. | 8-0453 | 764-7954 | 221-1072 | 3978 |
| 20 Mar. (79) | 4 Wed. | 21 23 36 | 19 Mar. (78) | 3 Tues. | 42-7277 | 700-7889 | 272-4177 | 3979 |
| 21 Mar. (80) | 6 Fri. | 3 35 45 | 8 Mar. (67) | 0 Sat. | 9918-4506 | 548-0330 | 241-5146 | 3980 |
| 21 Mar. (80) | 0 Sat. | 9 47 54 | 26 Feb. (57) | 5 Thur. | 132-8053 | 431-5686 | 213-5091 | 3981 |
| 20 Mar. (80) | 1 Sun. | 16 9 3 | 15 Mar. (75) | 3 Tues. | 9828-8558 | 331-2705 | 262-0817 | 3982 |
| 20 Mar. (79) | 2 Mon. | 22 12 12 | 5 Mar. (64) | 1 Sun. | 43-2106 | 214-8061 | 234-0013 | 3983 |
| 21 Mar. (80) | 4 Wed. | 4 24 21 | 22 Feb. (53) | 5 Thur. | 9918-9335 | 62-0502 | 203-1731 | 3984 |
| 21 Mar. (80) | 5 Thur. | 10 36 30 | 13 Mar. (72) | 4 Wed. | 9953-6158 | 998-0436 | 254-4835 | 3985 |
| 20 Mar. (80) | 6 Fri. | 16 48 39 | 2 Mar. (62) | 2 Mon. | 167-9707 | 881-5794 | 226-3980 | 3986 |
| 20 Mar. (79) | 0 Sat. | 23 0 48 | 19 Feb. (50) | 6 Fri. | 43-6936 | 728-9235 | 195-5748 | 3987 |
| 21 Mar. (80) | 2 Mon. | 5 12 57 | 10 Mar. (69) | 5 Thur. | 78-3759 | 664-8169 | 246-7165 | 3988 |
| 21 Mar. (80) | 3 Tues. | 11 25 6 | 27 Feb. (58) | 2 Mon. | 9954-0987 | 512-0610 | 216-0621 | 3989 |
| 20 Mar. (80) | 4 Wed. | 17 37 15 | 17 Mar. (77) | 1 Sun. | 9988-7811 | 448-0544 | 267-3724 | 3990 |
| 20 Mar. (79) | 5 Thur. | 23 49 24 | 6 Mar. (65) | 5 Thur. | 9864-5040 | 294-2984 | 236-5493 | 3991 |
| 21 Mar. (80) | 0 Sat. | 6 1 33 | 23 Feb. (54) | 2 Mon. | 9740-2268 | 142-0426 | 205-7261 | 3992 |
| 21 Mar. (80) | 1 Sun. | 12 13 42 | 14 Mar. (73) | 1 Sun. | 9774-9092 | 78-5360 | 257-0365 | 3993 |
| 20 Mar. (80) | 2 Mon. | 18 25 51 | 3 Mar. (63) | 6 Fri. | 9989-2641 | 962-0717 | 228-9510 | 3994 |
| 21 Mar. (80) | 4 Wed. | 0 38 0 | 21 Feb. (52) | 4 Wed. | 203-6198 | 845-6075 | 200-6968 | 3995 |
| 21 Mar. (80) | 5 Thur. | 6 50 9 | 12 Mar. (71) | 3 Tues. | 238-3012 | 781-6009 | 252-0073 | 3996 |
| 21 Mar. (80) | 6 Fri. | 21 2 18 | 1 Mar. (60) | 0 Sat. | 114-0241 | 628-8949 | 221-3528 | 3997 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|--------------------------|-----------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3998 | 819 | 954 | 303 | 71-72 | *806-07 | 50 Anala | | ... |
| 3999 | 820 | 955 | 304 | 72-73 | 807-08 | 51 Pīṅgala | | ... |
| 4000 | 821 | 956 | 305 | 73-74 | 808-09 | 52 Kālayukta | | 4 Āshādha |
| 4001 | 822 | 957 | 306 | 74-75 | 809-900 | 53 Siddhārthin | | ... |
| 4002 | 823 | 958 | 307 | 75-76 | *900-01 | 54 Raudra | | ... |
| 4003 | 824 | 959 | 308 | 76-77 | 901-02 | 55 Darmati | | 3 Jyēṣṭha |
| 4004 | 825 | 960 | 309 | 77-78 | 902-03 | 56 Dundubhi | | ... |
| 4005 | 826 | 961 | 310 | 78-79 | 903-04 | 57 Rudhirōdgārin | | 7 Āsvina |
| 4006 | 827 | 962 | 311 | 79-80 | *904-05 | 58 Raktāksha † | | ... |
| 4007 | 828 | 963 | 312 | 80-81 | 905-06 | 59 Krōdhana | 60 Kshaya | ... |
| 4008 | 829 | 964 | 313 | 81-82 | 906-07 | 60 Kshaya | 1 Prabhava | 5 Śrāvapa |
| 4009 | 830 | 965 | 314 | 82-83 | 907-08 | 1 Prabhava | 2 Vibhava | ... |
| 4010 | 831 | 966 | 315 | 83-84 | *908-09 | 2 Vibhava | 3 Śukla | ... |
| 4011 | 832 | 967 | 316 | 84-85 | 909-10 | 3 Śukla | 4 Pramōda | 3 Jyēṣṭha |
| 4012 | 833 | 968 | 317 | 85-86 | 910-11 | 4 Pramōda | 5 Prajāpati | ... |
| 4013 | 834 | 969 | 318 | 86-87 | 911-12 | 5 Prajāpati | 6 Aṅgiras | ... |
| 4014 | 835 | 970 | 319 | 87-88 | *912-13 | 6 Aṅgiras | 7 Śrīmukha | 2 Vaiśākha |
| 4015 | 836 | 971 | 320 | 88-89 | 913-14 | 7 Śrīmukha | 8 Bhāva | ... |
| 4016 | 837 | 972 | 321 | 89-90 | 914-15 | 8 Bhāva | 9 Yuvan | 6 Bhādrapada |
| 4017 | 838 | 973 | 322 | 90-91 | 915-16 | 9 Yuvan | 10 Dhātṛi | ... |
| 4018 | 839 | 974 | 323 | 91-92 | *916-17 | 10 Dhātṛi | 11 Iāvara | ... |
| 4019 | 840 | 975 | 324 | 92-93 | 917-18 | 11 Iāvara | 12 Bahudhānya | 4 Āshādha |
| 4020 | 841 | 976 | 325 | 93-94 | 918-19 | 12 Bahudhānya | 13 Pramādin | ... |
| 4021 | 842 | 977 | 326 | 94-95 | 919-20 | 13 Pramādin | 14 Vikrama | ... |
| 4022 | 843 | 978 | 327 | 95-96 | *920-21 | 14 Vikrama | 15 Vriṣha | 3 Jyēṣṭha |

† 59 Krōdhana was suppressed in the North. By Southern reckoning there was no suppression nor has there been any such since.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 20 Mar. (80) | 0 Sat. . | 19 14 27 | 19 Mar. (79) | 6 Fri. . | 148-7064 | 564-8384 | 272-6632 | 3998 |
| 21 Mar. (80) | 2 Mon. . | 1 26 36 | 8 Mar. (67) | 3 Tues. . | 24-4293 | 412-0825 | 241-8401 | 3999 |
| 21 Mar. (80) | 3 Tues. . | 7 38 45 | 25 Feb. (56) | 0 Sat. . | 9900-1522 | 259-3266 | 211-0169 | 4000 |
| 21 Mar. (80) | 4 Wed. . | 13 50 54 | 16 Mar. (75) | 6 Fri. . | 9934-8345 | 195-3200 | 262-3050 | 4001 |
| 20 Mar. (80) | 5 Thur. . | 20 3 3 | 4 Mar. (64) | 3 Tues. . | 9810-5573 | 42-5640 | 231-4818 | 4002 |
| 21 Mar. (80) | 0 Sat. . | 2 16 12 | 22 Feb. (53) | 1 Sun. . | 24-9122 | 926-0997 | 203-3963 | 4003 |
| 21 Mar. (80) | 1 Sun. . | 8 27 21 | 13 Mar. (72) | 0 Sat. . | 59-5945 | 862-0930 | 254-7067 | 4004 |
| 21 Mar. (80) | 2 Mon. . | 14 29 29 | 3 Mar. (62) | 5 Thur. . | 273-9494 | 745-6289 | 226-6213 | 4005 |
| 20 Mar. (80) | 3 Tues. . | 20 51 38 | 20 Mar. (80) | 3 Tues. . | 9909-9098 | 645-3307 | 275-1940 | 4006 |
| 21 Mar. (80) | 5 Thur. . | 3 3 47 | 10 Mar. (69) | 1 Sun. . | 184-3546 | 528-8665 | 247-1085 | 4007 |
| 21 Mar. (80) | 6 Fri. . | 9 15 56 | 27 Feb. (58) | 5 Thur. . | 60-0774 | 376-1105 | 216-2853 | 4008 |
| 21 Mar. (80) | 0 Sat. . | 15 28 5 | 17 Mar. (76) | 3 Tues. . | 9756-1279 | 275-8123 | 264-8579 | 4009 |
| 20 Mar. (80) | 1 Sun. . | 21 40 14 | 6 Mar. (66) | 1 Sun. . | 9970-4827 | 159-3479 | 236-7726 | 4010 |
| 21 Mar. (80) | 3 Tues. . | 3 52 23 | 23 Feb. (54) | 5 Thur. . | 9846-2055 | 6-5921 | 205-9493 | 4011 |
| 21 Mar. (80) | 4 Wed. . | 10 4 32 | 14 Mar. (73) | 4 Wed. . | 9880-8879 | 942-5855 | 257-2597 | 4012 |
| 21 Mar. (80) | 5 Thur. . | 16 16 41 | 4 Mar. (63) | 2 Mon. . | 95-2428 | 826-1212 | 229-1743 | 4013 |
| 20 Mar. (80) | 6 Fri. . | 22 28 50 | 22 Feb. (53) | 0 Sat. . | 309-5975 | 709-6569 | 201-0889 | 4014 |
| 21 Mar. (80) | 1 Sun. . | 4 40 59 | 11 Mar. (70) | 5 Thur. . | 5-6479 | 609-3587 | 249-6615 | 4015 |
| 21 Mar. (80) | 2 Mon. . | 10 53 8 | 28 Feb. (59) | 2 Mon. . | 9881-3708 | 456-6025 | 218-8333 | 4016 |
| 21 Mar. (80) | 3 Tues. . | 17 5 17 | 19 Mar. (78) | 1 Sun. . | 9916-0531 | 392-5962 | 270-1487 | 4017 |
| 20 Mar. (80) | 4 Wed. . | 23 17 26 | 7 Mar. (67) | 5 Thur. . | 9791-7760 | 239-8403 | 239-3256 | 4018 |
| 21 Mar. (80) | 6 Fri. . | 5 29 35 | 25 Feb. (56) | 3 Tues. . | 6-1309 | 123-3760 | 211-2401 | 4019 |
| 21 Mar. (80) | 0 Sat. . | 11 41 44 | 16 Mar. (75) | 2 Mon. . | 40-8133 | 59-3695 | 262-5505 | 4020 |
| 21 Mar. (80) | 1 Sun. . | 17 53 53 | 5 Mar. (64) | 6 Fri. . | 9916-5360 | 906-6135 | 231-6273 | 4021 |
| 21 Mar. (31) | 3 Tues. . | 0 6 2 | 23 Feb. (54) | 4 Wed. . | 130-8909 | 790-1493 | 203-6419 | 4022 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|---------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4023 | 844 | 979 | 328 | 96-97 | 921-22 | 15 Vṛiṣha . . | 16 Chitrabhānu . | ... |
| 4024 | 845 | 980 | 329 | 97-98 | 922-23 | 16 Chitrabhānu . | 17 Subhānu . | 7 Āvina . |
| 4025 | 846 | 981 | 330 | 98-99 | 923-24 | 17 Subhānu . | 18 Tārāṇa . | ... |
| 4026 | 847 | 982 | 331 | 99-100 | *924-25 | 18 Tārāṇa . | 19 Pārthiva . | ... |
| 4027 | 848 | 983 | 332 | 100-01 | 925-26 | 19 Pārthiva . | 20 Vyaya . | 5 Śrāvāṇa . |
| 4028 | 849 | 984 | 333 | 101-02 | 926-27 | 20 Vyaya . | 21 Sarvajit . | ... |
| 4029 | 850 | 985 | 334 | 102-03 | 927-28 | 21 Sarvajit . | 22 Sarvadhārin . | ... |
| 4030 | 851 | 986 | 335 | 103-04 | *928-29 | 22 Sarvadhārin . | 23 Virōdhin . | 3 Jyēṣṭha . |
| 4031 | 852 | 987 | 336 | 104-05 | 929-30 | 23 Virōdhin . | 24 Vikṛita . | ... |
| 4032 | 853 | 988 | 337 | 105-06 | 930-31 | 24 Vikṛita . | 25 Khara . | ... |
| 4033 | 854 | 989 | 338 | 106-07 | 931-32 | 25 Khara . | 26 Nandana . | 2 Vaiśākha . |
| 4034 | 855 | 990 | 339 | 107-08 | *932-33 | 26 Nandana . | 27 Vijaya . | ... |
| 4035 | 856 | 991 | 340 | 108-09 | 933-34 | 27 Vijaya . | 28 Jaya . | 6 Bhādrapada |
| 4036 | 857 | 992 | 341 | 109-10 | 934-35 | 28 Jaya . | 29 Manmatha . | ... |
| 4037 | 858 | 993 | 342 | 110-11 | 935-36 | 29 Manmatha . | 30 Durmukha . | ... |
| 4038 | 859 | 994 | 343 | 111-12 | *936-37 | 30 Durmukha . | 31 Hēmalamba . | 4 Āṣāḍha . |
| 4039 | 860 | 995 | 344 | 112-13 | 937-38 | 31 Hēmalamba . | 32 Vilamba . | ... |
| 4040 | 861 | 996 | 345 | 113-14 | 938-39 | 32 Vilamba . | 33 Vikārin . | ... |
| 4041 | 862 | 997 | 346 | 114-15 | 939-40 | 33 Vikārin . | 34 Śārvarin . | 3 Jyēṣṭha . |
| 4042 | 863 | 998 | 347 | 115-16 | *940-41 | 34 Śārvarin . | 35 Plava . | ... |
| 4043 | 864 | 999 | 348 | 116-17 | 941-42 | 35 Plava . | 36 Subhakṛit . | 7 Āvina . |
| 4044 | 865 | 1000 | 349 | 117-18 | 942-43 | 36 Subhakṛit . | 37 Śōbhana . | ... |
| 4045 | 866 | 1001 | 350 | 118-19 | 943-44 | 37 Śōbhana . | 38 Krōdhin . | ... |
| 4046 | 867 | 1002 | 351 | 119-20 | *944-45 | 38 Krōdhin . | 39 Viśvāvasu . | 5 Śrāvāṇa . |
| 4047 | 868 | 1003 | 352 | 120-21 | 945-46 | 39 Viśvāvasu . | 40 Parābhava . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|---------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-sath-krānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 21 Mar. (80) | 4 Wed. . | 6 18 11 | 13 Mar. (72) | 3 Tues. . | 165-5733 | 726-1427 | 254-9523 | 4023 |
| 21 Mar. (80) | 5 Thur. . | 12 30 20 | 2 Mar. (61) | 0 Sat. . | 41-2961 | 573-3868 | 224-1290 | 4024 |
| 21 Mar. (80) | 6 Fri. . | 18 42 29 | 21 Mar. (80) | 6 Fri. . | 75-9785 | 509-3802 | 275-4595 | 4025 |
| 21 Mar. (81) | 1 Sun. . | 0 54 38 | 9 Mar. (69) | 3 Tues. . | 9951-7014 | 356-6243 | 244-6163 | 4026 |
| 21 Mar. (80) | 2 Mon. . | 7 6 47 | 26 Feb. (57) | 0 Sat. . | 9827-4242 | 203-8683 | 213-7931 | 4027 |
| 21 Mar. (80) | 3 Tues. . | 13 18 56 | 17 Mar. (76) | 6 Fri. . | 9862-0966 | 139-8618 | 265-1034 | 4028 |
| 21 Mar. (80) | 4 Wed. . | 19 31 5 | 7 Mar. (66) | 4 Wed. . | 76-4614 | 23-3975 | 237-0181 | 4029 |
| 21 Mar. (81) | 6 Fri. . | 1 43 14 | 24 Feb. (55) | 1 Sun. . | 9952-1843 | 870-6416 | 206-1949 | 4030 |
| 21 Mar. (80) | 0 Sat. . | 7 55 23 | 14 Mar. (73) | 0 Sat. . | 9986-8666 | 806-6351 | 257-5063 | 4031 |
| 21 Mar. (80) | 1 Sun. . | 14 7 32 | 4 Mar. (63) | 5 Thur. . | 201-2215 | 690-1707 | 229-4198 | 4032 |
| 21 Mar. (80) | 2 Mon. . | 20 19 41 | 21 Feb. (52) | 2 Mon. . | 76-9443 | 537-4148 | 198-5966 | 4033 |
| 21 Mar. (81) | 4 Wed. . | 2 31 50 | 11 Mar. (71) | 1 Sun. . | 111-6267 | 473-4083 | 249-9071 | 4034 |
| 21 Mar. (80) | 5 Thur. . | 8 43 59 | 28 Feb. (59) | 5 Thur. . | 9987-3495 | 320-6523 | 219-0839 | 4035 |
| 21 Mar. (80) | 6 Fri. . | 14 56 8 | 19 Mar. (78) | 4 Wed. . | 22-0319 | 256-6458 | 270-3942 | 4036 |
| 21 Mar. (80) | 0 Sat. . | 21 8 17 | 8 Mar. (67) | 1 Sun. . | 9897-7548 | 163-8898 | 239-5711 | 4037 |
| 21 Mar. (81) | 2 Mon. . | 3 20 26 | 26 Feb. (57) | 6 Fri. . | 112-1097 | 987-4256 | 211-4857 | 4038 |
| 21 Mar. (80) | 3 Tues. . | 9 32 35 | 16 Mar. (75) | 3 Thur. . | 146-7926 | 923-4190 | 262-7961 | 4039 |
| 21 Mar. (80) | 4 Wed. . | 15 44 44 | 5 Mar. (64) | 2 Mon. . | 22-5148 | 770-6630 | 231-9729 | 4040 |
| 21 Mar. (80) | 5 Thur. . | 21 56 53 | 23 Feb. (54) | 0 Sat. . | 236-8697 | 654-1988 | 203-8874 | 4041 |
| 21 Mar. (81) | 0 Sat. . | 4 9 2 | 12 Mar. (72) | 5 Thur. . | 9932-9200 | 553-9006 | 262-4601 | 4042 |
| 21 Mar. (80) | 1 Sun. . | 10 21 11 | 1 Mar. (60) | 2 Mon. . | 9808-6429 | 401-1447 | 221-6368 | 4043 |
| 21 Mar. (80) | 2 Mon. . | 16 33 20 | 20 Mar. (79) | 1 Sun. . | 9843-3253 | 337-1381 | 272-0473 | 4044 |
| 21 Mar. (80) | 3 Tues. . | 22 45 29 | 9 Mar. (68) | 3 Thur. . | 9719-0482 | 184-3821 | 242-1240 | 4045 |
| 21 Mar. (81) | 5 Thur. . | 4 57 38 | 27 Feb. (58) | 3 Tues. . | 9933-4029 | 67-9178 | 214-0386 | 4046 |
| 21 Mar. (80) | 6 Fri. . | 11 9 47 | 17 Mar. (76) | 2 Mon. . | 9908-0854 | 3-9113 | 265-3490 | 4047 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Meshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4048 | 869 | 1004 | 353 | 121-22 | 946-47 | 40 Parābhava . | 41 Plavaṅga . | ... |
| 4049 | 870 | 1005 | 354 | 122-23 | 947-48 | 41 Plavaṅga . | 42 Kilaka . | 3 Jyēṣṭha . |
| 4050 | 871 | 1006 | 355 | 123-24 | *948-49 | 42 Kilaka . | 43 Saumya . | ... |
| 4051 | 872 | 1007 | 356 | 124-25 | 949-50 | 43 Saumya . | 44 Sādhārana . | ... |
| 4052 | 873 | 1008 | 357 | 125-26 | 950-51 | 44 Sādhārana . | 45 Virōdhakṛit . | 1 Chaitra . |
| 4053 | 874 | 1009 | 358 | 126-27 | 951-52 | 45 Virōdhakṛit . | 46 Paridhāvin . | ... |
| 4054 | 875 | 1010 | 359 | 127-28 | *952-53 | 46 Paridhāvin . | 47 Pramādin . | 5 Śrāvaṇa . |
| 4055 | 876 | 1011 | 360 | 128-29 | 953-54 | 47 Pramādin . | 48 Ānanda . | ... |
| 4056 | 877 | 1012 | 361 | 129-30 | 954-55 | 48 Ānanda . | 49 Rākṣasa . | ... |
| 4057 | 878 | 1013 | 362 | 130-31 | 955-56 | 49 Rākṣasa . | 50 Anala . | 4 Āṣāḍha . |
| 4058 | 879 | 1014 | 363 | 131-32 | *956-57 | 50 Anala . | 51 Piṅgala . | ... |
| 4059 | 880 | 1015 | 364 | 132-33 | 957-58 | 51 Piṅgala . | 52 Kālayukta . | ... |
| 4060 | 881 | 1016 | 365 | 133-34 | 958-59 | 52 Kālayukta . | 53 Siddhārthina . | 3 Jyēṣṭha . |
| 4061 | 882 | 1017 | 366 | 134-35 | 959-60 | 53 Siddhārthina . | 54 Raudra . | ... |
| 4062 | 883 | 1018 | 367 | 135-36 | *960-61 | 54 Raudra . | 55 Durmatī . | 7 Āvina . |
| 4063 | 884 | 1019 | 368 | 136-37 | 961-62 | 55 Durmatī . | 56 Dundubhi . | ... |
| 4064 | 885 | 1020 | 369 | 137-38 | 962-63 | 56 Dundubhi . | 57 Rudhirōdgārin . | ... |
| 4065 | 886 | 1021 | 370 | 138-39 | 963-64 | 57 Rudhirōdgārin . | 58 Raktākṣa . | 4 Āṣāḍha . |
| 4066 | 887 | 1022 | 371 | 139-40 | *964-65 | 58 Raktākṣa . | 59 Krōdhana . | ... |
| 4067 | 888 | 1023 | 372 | 140-41 | 965-66 | 59 Krōdhana . | 60 Kṣaya . | ... |
| 4068 | 889 | 1024 | 373 | 141-42 | 966-67 | 60 Kṣaya . | 1 Prabhava . | 3 Jyēṣṭha . |
| 4069 | 890 | 1025 | 374 | 142-43 | 967-68 | 1 Prabhava . | 2 Vibhava . | ... |
| 4070 | 891 | 1026 | 375 | 143-44 | *968-69 | 2 Vibhava . | 3 Śukla . | 12 Phālguna . |
| 4071 | 892 | 1027 | 376 | 144-45 | 969-70 | 3 Śukla . | 4 Pramōda . | ... |
| 4072 | 893 | 1028 | 377 | 145-46 | 970-71 | 4 Pramōda . | 5 Prajāpati . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 21 Mar. (80) | 0 Sat. | 17 21 56 | 7 Mar. (66) | 0 Sat. | 182-4402 | 887-4470 | 237-2637 | 4048 |
| 21 Mar. (80) | 1 Sun. | 23 34 5 | 24 Feb. (55) | 4 Wed. | 58-1630 | 734-6910 | 206-4404 | 4049 |
| 21 Mar. (81) | 3 Tues. | 5 46 13 | 14 Mar. (74) | 3 Tues. | 92-8454 | 670-6846 | 257-7508 | 4050 |
| 21 Mar. (80) | 4 Wed. | 11 58 22 | 3 Mar. (62) | 0 Sat. | 9908-5683 | 517-9286 | 226-9276 | 4051 |
| 21 Mar. (80) | 5 Thur. | 18 10 31 | 20 Feb. (51) | 4 Wed. | 9844-3112 | 365-1727 | 196-1044 | 4052 |
| 22 Mar. (81) | 0 Sat. | 0 22 40 | 17 Mar. (70) | 3 Tues. | 9878-9735 | 301-1602 | 247-4148 | 4053 |
| 21 Mar. (81) | 1 Sun. | 6 34 49 | 28 Feb. (59) | 0 Sat. | 9754-6963 | 148-4102 | 216-5916 | 4054 |
| 21 Mar. (80) | 2 Mon. | 12 46 58 | 18 Mar. (77) | 6 Fri. | 9789-3787 | 84-4037 | 267-9020 | 4055 |
| 21 Mar. (80) | 3 Tues. | 18 59 7 | 8 Mar. (67) | 4 Wed. | 3-7335 | 997-9304 | 239-8167 | 4056 |
| 22 Mar. (81) | 5 Thur. | 1 11 16 | 26 Feb. (57) | 2 Mon. | 218-0884 | 851-4750 | 211-7312 | 4057 |
| 21 Mar. (81) | 6 Fri. | 7 23 25 | 16 Mar. (76) | 1 Sun. | 252-7708 | 787-4685 | 263-0416 | 4058 |
| 21 Mar. (80) | 0 Sat. | 13 35 34 | 5 Mar. (64) | 5 Thur. | 128-4936 | 634-7125 | 232-2184 | 4059 |
| 21 Mar. (80) | 1 Sun. | 19 47 43 | 22 Feb. (53) | 2 Mon. | 4-2164 | 481-9566 | 261-3952 | 4060 |
| 22 Mar. (81) | 3 Tues. | 1 59 52 | 13 Mar. (72) | 1 Sun. | 38-8988 | 417-9502 | 252-7056 | 4061 |
| 21 Mar. (81) | 4 Wed. | 8 12 1 | 1 Mar. (61) | 5 Thur. | 9914-6217 | 265-1942 | 221-8823 | 4062 |
| 21 Mar. (80) | 5 Thur. | 14 24 10 | 20 Mar. (79) | 4 Wed. | 9949-3040 | 201-1877 | 273-1828 | 4063 |
| 21 Mar. (80) | 6 Fri. | 20 36 19 | 9 Mar. (68) | 1 Sun. | 9825-0209 | 48-5316 | 242-3696 | 4064 |
| 22 Mar. (81) | 1 Sun. | 2 48 28 | 27 Feb. (58) | 6 Fri. | 39-3817 | 931-9674 | 214-2842 | 4065 |
| 21 Mar. (81) | 2 Mon. | 9 0 37 | 17 Mar. (77) | 5 Thur. | 74-0042 | 867-9608 | 265-5946 | 4066 |
| 21 Mar. (80) | 3 Tues. | 15 12 46 | 7 Mar. (66) | 3 Tues. | 288-4189 | 751-4056 | 237-5093 | 4067 |
| 21 Mar. (80) | 4 Wed. | 21 24 55 | 24 Feb. (55) | 0 Sat. | 164-1418 | 598-7406 | 206-6860 | 4068 |
| 22 Mar. (81) | 6 Fri. | 3 37 4 | 15 Mar. (74) | 6 Fri. | 198-8042 | 534-7341 | 257-9964 | 4069 |
| 21 Mar. (81) | 0 Sat. | 9 49 13 | 3 Mar. (63) | 3 Tues. | 74-5470 | 381-9782 | 227-1731 | 4070 |
| 21 Mar. (80) | 1 Sun. | 16 1 22 | 21 Mar. (80) | 1 Sun. | 9770-8974 | 281-6799 | 275-7458 | 4071 |
| 21 Mar. (80) | 2 Mon. | 22 13 31 | 11 Mar. (70) | 6 Fri. | 9984-9522 | 616-2156 | 247-6604 | 4072 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JUVIAN SĀMVATŚARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4073 | 894 | 1029 | 378 | 146-47 | 971-72 | 5 Prajāpati . | 6 Angiras . | 5 Śrāvapa . |
| 4074 | 895 | 1030 | 379 | 147-48 | *972-73 | 6 Angiras . | 7 Śrīmukha . | ... |
| 4075 | 896 | 1031 | 380 | 148-49 | 973-74 | 7 Śrīmukha . | 8 Bhāva . | ... |
| 4076 | 897 | 1032 | 381 | 149-50 | 974-75 | 8 Bhāva . | 9 Yuvan . | 4 Āshāḍha . |
| 4077 | 898 | 1033 | 382 | 150-51 | 975-76 | 9 Yuvan . | 10 Dhātṛi . | ... |
| 4078 | 899 | 1034 | 383 | 151-52 | *976-77 | 10 Dhātṛi . | 11 Iśvara . | ... |
| 4079 | 900 | 1035 | 384 | 152-53 | 977-78 | 11 Iśvara . | 12 Bahudhānya . | 2 Vaiśākha . |
| 4080 | 901 | 1036 | 385 | 153-54 | 978-79 | 12 Bahudhānya . | 13 Pramāthīn . | ... |
| 4081 | 902 | 1037 | 386 | 154-55 | 979-80 | 13 Pramāthīn . | 14 Vikrama . | 6 Bhādrapada |
| 4082 | 903 | 1038 | 387 | 155-56 | *980-81 | 14 Vikrama . | 15 Vṛisha . | ... |
| 4083 | 904 | 1039 | 388 | 156-57 | 981-82 | 15 Vṛisha . | 16 Chitrabhānu . | ... |
| 4084 | 905 | 1040 | 389 | 157-58 | 982-83 | 16 Chitrabhānu . | 17 Subhānu . | 4 Āshāḍha . |
| 4085 | 906 | 1041 | 390 | 158-59 | 983-84 | 17 Subhānu . | 18 Tāraka . | ... |
| 4086 | 907 | 1042 | 391 | 159-60 | *984-85 | 18 Tāraka . | 19 Pārthiva . | ... |
| 4087 | 908 | 1043 | 392 | 160-61 | 985-86 | 19 Pārthiva . | 20 Vyaya . | 3 Jyēṣṭha . |
| 4088 | 909 | 1044 | 393 | 161-62 | 986-87 | 20 Vyaya . | 21 Sarvajit . | ... |
| 4089 | 910 | 1045 | 394 | 162-63 | 987-88 | 21 Sarvajit . | 22 Sarvadhārin . | ... |
| 4090 | 911 | 1046 | 395 | 163-64 | *988-89 | 22 Sarvadhārin . | 23 Virōdhin . | 1 Chaitra . |
| 4091 | 912 | 1047 | 396 | 164-65 | 989-90 | 23 Virōdhin . | 24 Vikṛita† . | ... |
| 4092 | 913 | 1048 | 397 | 165-66 | 990-91 | 24 Vikṛita . | 25 Nandana . | 5 Śrāvapa . |
| 4093 | 914 | 1049 | 398 | 166-67 | 991-92 | 25 Khara . | 27 Vijaya . | ... |
| 4094 | 915 | 1050 | 399 | 167-68 | *992-93 | 26 Nandana . | 28 Jaya . | ... |
| 4095 | 916 | 1051 | 400 | 168-69 | 993-94 | 27 Vijaya . | 29 Manmatha . | 4 Āshāḍha . |
| 4096 | 917 | 1052 | 401 | 169-70 | 994-95 | 28 Jaya . | 30 Durmukha . | ... |
| 4097 | 918 | 1053 | 402 | 170-71 | 995-96 | 29 Manmatha . | 31 Hēmalamba . | ... |

† 25 Khara was suppressed in the north.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|----------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITHA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month, A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 4 Wed. | 4 25 40 | 28 Feb. (59) | 3 Tues. | 9860-6751 | 12-4597 | 217-8372 | 4073 |
| 21 Mar. (81) | 5 Thur. | 10 37 49 | 18 Mar. (78) | 2 Mon. | 9895-3574 | 948-4532 | 268-0475 | 4074 |
| 21 Mar. (80) | 6 Fri. | 16 49 58 | 8 Mar. (67) | 0 Sat. | 109-7123 | 831-9889 | 240-0622 | 4075 |
| 21 Mar. (80) | 0 Sat. | 23 2 7 | 25 Feb. (56) | 4 Wed. | 9985-4352 | 679-2329 | 269-2390 | 4076 |
| 22 Mar. (81) | 2 Mon. | 5 14 16 | 16 Mar. (75) | 3 Tues. | 20-1175 | 615-2264 | 260-5494 | 4077 |
| 21 Mar. (81) | 3 Tues. | 11 26 25 | 4 Mar. (64) | 0 Sat. | 9895-8404 | 462-4704 | 229-7261 | 4078 |
| 21 Mar. (80) | 4 Wed. | 17 38 34 | 21 Feb. (52) | 4 Wed. | 9771-5632 | 309-7145 | 198-9029 | 4079 |
| 21 Mar. (80) | 5 Thur. | 23 50 43 | 12 Mar. (71) | 3 Tues. | 9806-2450 | 245-7080 | 250-2134 | 4080 |
| 22 Mar. (81) | 0 Sat. | 6 2 52 | 2 Mar. (61) | 1 Sun. | 20-6004 | 129-2437 | 222-1279 | 4081 |
| 21 Mar. (81) | 1 Sun. | 12 15 1 | 20 Mar. (80) | 0 Sat. | 55-2828 | 65-2372 | 273-4383 | 4082 |
| 21 Mar. (80) | 2 Mon. | 18 27 10 | 9 Mar. (68) | 4 Wed. | 9931-0057 | 912-4811 | 242-6151 | 4083 |
| 22 Mar. (81) | 4 Wed. | 0 39 19 | 27 Feb. (58) | 2 Mon. | 145-3605 | 796-0169 | 214-5298 | 4084 |
| 22 Mar. (81) | 5 Thur. | 6 51 28 | 18 Mar. (77) | 1 Sun. | 180-0429 | 732-0103 | 265-8401 | 4085 |
| 21 Mar. (81) | 6 Fri. | 13 3 37 | 6 Mar. (66) | 5 Thur. | 55-7657 | 579-2544 | 235-0169 | 4086 |
| 21 Mar. (80) | 0 Sat. | 19 15 46 | 23 Feb. (54) | 2 Mon. | 9931-4886 | 426-4985 | 204-1937 | 4087 |
| 22 Mar. (81) | 2 Mon. | 1 27 55 | 11 Mar. (73) | 1 Sun. | 9966-1709 | 362-4919 | 255-5042 | 4088 |
| 22 Mar. (81) | 3 Tues. | 7 40 4 | 3 Mar. (62) | 5 Thur. | 9841-8938 | 209-7360 | 224-6809 | 4089 |
| 21 Mar. (81) | 4 Wed. | 13 52 13 | 21 Feb. (52) | 3 Tues. | 56-2487 | 93-2717 | 196-5954 | 4090 |
| 21 Mar. (80) | 5 Thur. | 20 4 22 | 11 Mar. (70) | 2 Mon. | 90-8310 | 29-2651 | 247-9059 | 4091 |
| 22 Mar. (81) | 0 Sat. | 2 16 31 | 28 Feb. (59) | 6 Fri. | 9966-6538 | 876-5093 | 217-0828 | 4092 |
| 22 Mar. (81) | 1 Sun. | 8 28 40 | 19 Mar. (78) | 5 Thur. | 1-3372 | 812-5027 | 268-3931 | 4093 |
| 21 Mar. (81) | 2 Mon. | 14 40 49 | 8 Mar. (68) | 3 Tues. | 215-6911 | 696-0384 | 240-3077 | 4094 |
| 21 Mar. (80) | 3 Tues. | 20 52 58 | 25 Feb. (56) | 0 Sat. | 91-4139 | 543-2825 | 209-4845 | 4095 |
| 22 Mar. (81) | 5 Thur. | 3 5 6 | 16 Mar. (75) | 6 Fri. | 126-0953 | 479-2759 | 260-7950 | 4096 |
| 22 Mar. (81) | 6 Fri. | 9 17 15 | 5 Mar. (64) | 3 Tues. | 1-8192 | 326-5199 | 229-9717 | 4097 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4098 | 919 | 1054 | 403 | 171-72 | *996-97 | 30 Darmukha . | 32 Vilamba . | 2 Vaiśākha . |
| 4099 | 920 | 1055 | 404 | 172-73 | 997-98 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4100 | 921 | 1056 | 405 | 173-74 | 998-99 | 32 Vilamba . | 34 Śārvarin . | 6 Bhādrapada . |
| 4101 | 922 | 1057 | 406 | 174-75 | 999-1000 | 33 Vikārin . | 35 Plava . | ... |
| 4102 | 923 | 1058 | 407 | 175-76 | *1000-01 | 34 Śārvarin . | 36 Subhakṛit . | ... |
| 4103 | 924 | 1059 | 408 | 176-77 | 1001-02 | 35 Plava . | 37 Śōbhana . | 5 Śrāvapa . |
| 4104 | 925 | 1060 | 409 | 177-78 | 1002-03 | 36 Subhakṛit . | 38 Krōdhin . | ... |
| 4105 | 926 | 1061 | 410 | 178-79 | 1003-04 | 37 Śōbhana . | 39 Viśvāvasu . | ... |
| 4106 | 927 | 1062 | 411 | 179-80 | *1004-05 | 38 Krōdhin . | 40 Parābhava . | 3 Jyēsthā . |
| 4107 | 928 | 1063 | 412 | 180-81 | 1005-06 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4108 | 929 | 1064 | 413 | 181-82 | 1006-07 | 40 Parābhava . | 42 Kilaka . | { 8 Kārttika 9 Mārgas: (<i>ksh.</i>) } |
| 4109 | 930 | 1065 | 414 | 182-83 | 1007-08 | 41 Plavaṅga . | 43 Saumya . | 1 Chaitra . |
| 4110 | 931 | 1066 | 415 | 183-84 | *1008-09 | 42 Kilaka . | 44 Sādhārṇa . | ... |
| 4111 | 932 | 1067 | 416 | 184-85 | 1009-10 | 43 Saumya . | 45 Virōdhakṛit . | 5 Śrāvapa . |
| 4112 | 933 | 1068 | 417 | 185-86 | 1010-11 | 44 Sādhārṇa . | 46 Paridhāvin . | ... |
| 4113 | 934 | 1069 | 418 | 186-87 | 1011-12 | 45 Virōdhakṛit . | 47 Pramādin . | ... |
| 4114 | 935 | 1070 | 419 | 187-88 | *1012-13 | 46 Paridhāvin . | 48 Ānanda . | 4 Āshāḍha . |
| 4115 | 936 | 1071 | 420 | 188-89 | 1013-14 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4116 | 937 | 1072 | 421 | 189-90 | 1014-15 | 48 Ānanda . | 50 Anala . | ... |
| 4117 | 938 | 1073 | 422 | 190-91 | 1015-16 | 49 Rākshasa . | 51 Piṅgala . | 2 Vaiśākha . |
| 4118 | 939 | 1074 | 423 | 191-92 | *1016-17 | 50 Anala . | 52 Kālayukta . | ... |
| 4119 | 940 | 1075 | 424 | 192-93 | 1017-18 | 51 Piṅgala . | 53 Siddhārthin . | 6 Bhādrapada . |
| 4120 | 941 | 1076 | 425 | 193-94 | 1018-19 | 52 Kālayukta . | 54 Raudra . | ... |
| 4121 | 942 | 1077 | 426 | 194-95 | 1019-20 | 53 Siddhārthin . | 55 Darmati . | ... |
| 4122 | 943 | 1078 | 427 | 195-96 | *1020-21 | 54 Raudra . | 56 Dundubhi . | 5 Śrāvapa . |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month, A.D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | 1 |
| 21 Mar. (81) | 0 Sat. | 15 29 24 | 22 Feb. (53) | 0 Sat. | 9877-5419 | 173-7646 | 199-1484 | 4098 |
| 21 Mar. (80) | 1 Sun. | 21 41 33 | 12 Mar. (71) | 6 Fri. | 9912-2243 | 169-7575 | 251-4580 | 4099 |
| 22 Mar. (81) | 3 Tues. | 3 53 42 | 2 Mar. (61) | 4 Wed. | 126-5792 | 993-2923 | 222-3735 | 4100 |
| 22 Mar. (81) | 4 Wed. | 10 5 51 | 21 Mar. (80) | 3 Tues. | 161-2616 | 929-2867 | 273-6618 | 4101 |
| 21 Mar. (81) | 5 Thur. | 16 18 0 | 9 Mar. (69) | 0 Sat. | 36-9845 | 770-5307 | 242-8385 | 4102 |
| 21 Mar. (80) | 6 Fri. | 22 30 9 | 27 Feb. (58) | 5 Thur. | 251-3393 | 660-0664 | 214-7531 | 4103 |
| 22 Mar. (81) | 1 Sun. | 4 42 18 | 17 Mar. (76) | 3 Tues. | 9947-2697 | 559-7683 | 263-3257 | 4104 |
| 22 Mar. (81) | 2 Mon. | 10 54 27 | 6 Mar. (65) | 0 Sat. | 9823-1125 | 407-0122 | 232-5025 | 4105 |
| 21 Mar. (81) | 3 Tues. | 17 6 36 | 24 Feb. (55) | 5 Thur. | 37-4674 | 290-5480 | 204-4171 | 4106 |
| 21 Mar. (80) | 4 Wed. | 23 18 45 | 12 Mar. (72) | 3 Tues. | 9733-5177 | 190-2498 | 253-9857 | 4107 |
| 22 Mar. (81) | 6 Fri. | 5 30 54 | 3 Mar. (62) | 1 Sun. | 9947-8726 | 73-7855 | 224-9042 | 4108 |
| 22 Mar. (81) | 0 Sat. | 11 43 3 | 21 Feb. (52) | 6 Fri. | 162-2275 | 957-3273 | 196-8189 | 4109 |
| 21 Mar. (81) | 1 Sun. | 17 55 12 | 11 Mar. (71) | 5 Thur. | 196-9097 | 893-3146 | 248-1293 | 4110 |
| 22 Mar. (81) | 3 Tues. | 0 7 21 | 28 Feb. (39) | 2 Mon. | 72-6326 | 740-5588 | 217-3061 | 4111 |
| 22 Mar. (81) | 4 Wed. | 6 19 30 | 19 Mar. (78) | 1 Sun. | 107-3140 | 676-5522 | 268-6164 | 4112 |
| 22 Mar. (81) | 5 Thur. | 12 31 39 | 8 Mar. (67) | 5 Thur. | 9983-0379 | 523-7962 | 237-7033 | 4113 |
| 21 Mar. (81) | 6 Fri. | 18 43 48 | 25 Feb. (56) | 2 Mon. | 9858-7607 | 371-0403 | 206-9701 | 4114 |
| 22 Mar. (81) | 1 Sun. | 0 53 57 | 15 Mar. (74) | 1 Sun. | 9893-4431 | 307-0338 | 258-2805 | 4115 |
| 22 Mar. (81) | 2 Mon. | 7 8 6 | 4 Mar. (63) | 5 Thur. | 9769-1660 | 154-2779 | 227-4572 | 4116 |
| 22 Mar. (81) | 3 Tues. | 13 20 15 | 22 Feb. (53) | 3 Tues. | 9983-5267 | 37-8125 | 199-3718 | 4117 |
| 21 Mar. (81) | 4 Wed. | 19 32 24 | 12 Mar. (72) | 2 Mon. | 18-2031 | 973-8070 | 250-6823 | 4118 |
| 22 Mar. (81) | 6 Fri. | 1 44 33 | 2 Mar. (61) | 0 Sat. | 232-5580 | 857-3427 | 222-5968 | 4119 |
| 22 Mar. (81) | 0 Sat. | 7 56 42 | 21 Mar. (80) | 6 Fri. | 267-2404 | 793-3362 | 273-9072 | 4120 |
| 22 Mar. (81) | 1 Sun. | 14 8 51 | 10 Mar. (69) | 3 Tues. | 142-9632 | 640-5802 | 243-0840 | 4121 |
| 21 Mar. (81) | 2 Mon. | 20 21 0 | 27 Feb. (58) | 0 Sat. | 18-6860 | 497-8243 | 212-2609 | 4122 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8 a |
| 4123 | 944 | 1079 | 428 | 196-97 | 1021-22 | 55 Durmati . | 57 Rudhirōdgārīn | ... |
| 4124 | 945 | 1080 | 429 | 197-98 | 1022-23 | 56 Dundubhi . | 58 Raktāksha . | ... |
| 4125 | 946 | 1081 | 430 | 198-99 | 1023-24 | 57 Rudhirōdgārīn | 59 Krōdhana . | 3 Jyēshtha . |
| 4126 | 947 | 1082 | 431 | 199-200 | *1024-25 | 58 Raktāksha . | 60 Kshaya . | ... |
| 4127 | 948 | 1083 | 432 | 200-01 | 1025-26 | 59 Krōdhana . | 1 Prabhava . | 7 Āsvina 10 Pausa (<i>kak</i>) |
| 4128 | 949 | 1084 | 433 | 201-02 | 1026-27 | 60 Kshaya . | 2 Vibhava . | 1 Chaitra . |
| 4129 | 950 | 1085 | 434 | 202-03 | 1027-28 | 1 Prabhava . | 3 Śukla . | ... |
| 4130 | 951 | 1086 | 435 | 203-04 | *1028-29 | 2 Vibhava . | 4 Pramōda . | 5 Śrāvaya . |
| 4131 | 952 | 1087 | 436 | 204-05 | 1029-30 | 3 Śukla . | 5 Prajāpati . | ... |
| 4132 | 953 | 1088 | 437 | 205-06 | 1030-31 | 4 Pramōda . | 6 Aṅgiras . | ... |
| 4133 | 954 | 1089 | 438 | 206-07 | 1031-32 | 5 Prajāpati . | 7 Śrīmukha . | 3 Jyēshtha . |
| 4134 | 955 | 1090 | 439 | 207-08 | *1032-33 | 6 Aṅgiras . | 8 Bhāva . | ... |
| 4135 | 956 | 1091 | 440 | 208-09 | 1033-34 | 7 Śrīmukha . | 9 Yuvan . | ... |
| 4136 | 957 | 1092 | 441 | 209-10 | 1034-35 | 8 Bhāva . | 10 Dhātri . | 2 Vaiśākha . |
| 4137 | 958 | 1093 | 442 | 210-11 | 1035-36 | 9 Yuvan . | 11 Īvara . | ... |
| 4138 | 959 | 1094 | 443 | 211-12 | *1036-37 | 10 Dhātri . | 12 Bahudhānya . | 6 Bhādrapada |
| 4139 | 960 | 1095 | 444 | 212-13 | 1037-38 | 11 Īvara . | 13 Pramāthīn . | ... |
| 4140 | 961 | 1096 | 445 | 213-14 | 1038-39 | 12 Bahudhānya . | 14 Vikrama . | ... |
| 4141 | 962 | 1097 | 446 | 214-15 | 1039-40 | 13 Pramāthīn . | 15 Vṛisha . | 4 Āshāḍha . |
| 4142 | 963 | 1098 | 447 | 215-16 | *1040-41 | 14 Vikrama . | 16 Chitrabhānu . | ... |
| 4143 | 964 | 1099 | 448 | 216-17 | 1041-42 | 15 Vṛisha . | 17 Subhānu . | ... |
| 4144 | 965 | 1100 | 449 | 217-18 | 1042-43 | 16 Chitrabhānu . | 18 Tāraka . | 3 Jyēshtha . |
| 4145 | 966 | 1101 | 450 | 218-19 | 1043-44 | 17 Subhānu . | 19 Pārthiva . | ... |
| 4146 | 967 | 1102 | 451 | 219-20 | *1044-45 | 18 Tāraka . | 20 Vyaya . | 7 Āsvina |
| 4147 | 968 | 1103 | 452 | 220-21 | 1045-46 | 19 Pārthiva . | 21 Sarvajit . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|----------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | JUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | |
| Day and month, A.D. | Week-day. | Time of true Mēsha-satti-krānti. | Day and month, A.D. | Week-day. | a | b | c | Kali. |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 4 Wed. . | 2 33 9 | 17 Mar. (76) | 6 Fri. . | 53-3685 | 423-8178 | 263-3090 | 4123 |
| 22 Mar. (81) | 5 Thur. . | 8 45 18 | 6 Mar. (65) | 3 Tues. . | 9929-0002 | 271-0618 | 232-7480 | 4124 |
| 22 Mar. (81) | 6 Fri. . | 14 57 27 | 23 Feb. (54) | 0 Sat. . | 9804-8141 | 118-3068 | 201-9238 | 4125 |
| 21 Mar. (81) | 0 Sat. . | 21 9 36 | 13 Mar. (73) | 6 Fri. . | 9839-4965 | 54-2993 | 253-2353 | 4126 |
| 22 Mar. (81) | 2 Mon. . | 3 21 45 | 3 Mar. (62) | 4 Wed. . | 53-8514 | 937-8350 | 225-0498 | 4127 |
| 22 Mar. (81) | 3 Tues. . | 9 33 54 | 21 Feb. (52) | 2 Mon. . | 268-2062 | 821-3708 | 197-0643 | 4128 |
| 22 Mar. (81) | 4 Wed. . | 15 46 3 | 12 Mar. (71) | 1 Sun. . | 302-8885 | 757-3642 | 248-3748 | 4129 |
| 21 Mar. (81) | 5 Thur. . | 21 58 12 | 29 Feb. (60) | 5 Thur. . | 178-6114 | 604-6082 | 217-5517 | 4130 |
| 22 Mar. (81) | 0 Sat. . | 4 10 21 | 19 Mar. (78) | 4 Wed. . | 213-2937 | 540-6018 | 268-8620 | 4131 |
| 22 Mar. (81) | 1 Sun. . | 10 22 30 | 8 Mar. (67) | 1 Sun. . | 89-0166 | 387-8457 | 238-0388 | 4132 |
| 22 Mar. (81) | 2 Mon. . | 16 34 39 | 25 Feb. (56) | 5 Thur. . | 9964-7395 | 235-0898 | 207-2156 | 4133 |
| 21 Mar. (81) | 3 Tues. . | 22 46 48 | 15 Mar. (75) | 4 Wed. . | 9999-4219 | 171-0833 | 258-5271 | 4134 |
| 22 Mar. (81) | 5 Thur. . | 4 58 57 | 4 Mar. (63) | 1 Sun. . | 9875-1447 | 17-3274 | 227-7028 | 4135 |
| 22 Mar. (81) | 6 Fri. . | 11 11 6 | 22 Feb. (53) | 6 Fri. . | 89-4995 | 901-8631 | 199-6173 | 4136 |
| 22 Mar. (81) | 0 Sat. . | 17 23 5 | 13 Mar. (72) | 5 Thur. . | 124-1819 | 837-8565 | 250-4278 | 4137 |
| 21 Mar. (81) | 1 Sun. . | 23 35 24 | 1 Mar. (61) | 2 Mon. . | 9999-9048 | 685-1006 | 219-6046 | 4138 |
| 22 Mar. (81) | 3 Tues. . | 5 47 33 | 20 Mar. (79) | 1 Sun. . | 34-5871 | 621-0940 | 271-4150 | 4139 |
| 22 Mar. (81) | 4 Wed. . | 11 59 42 | 9 Mar. (68) | 5 Thur. . | 9910-3100 | 468-3381 | 239-5919 | 4140 |
| 22 Mar. (81) | 5 Thur. . | 18 11 50 | 26 Feb. (57) | 2 Mon. . | 9786-0329 | 315-5822 | 209-7686 | 4141 |
| 22 Mar. (82) | 0 Sat. . | 0 23 59 | 16 Mar. (76) | 1 Sun. . | 9820-7152 | 251-5756 | 261-0791 | 4142 |
| 22 Mar. (81) | 1 Sun. . | 6 36 8 | 6 Mar. (65) | 6 Fri. . | 35-0700 | 145-1113 | 232-9936 | 4143 |
| 22 Mar. (81) | 2 Mon. . | 12 48 17 | 23 Feb. (54) | 3 Tues. . | 9910-7929 | 983-3553 | 202-1704 | 4144 |
| 22 Mar. (81) | 3 Tues. . | 19 0 26 | 14 Mar. (73) | 2 Mon. . | 9945-4753 | 915-3478 | 253-4808 | 4145 |
| 22 Mar. (82) | 5 Thur. . | 1 12 35 | 3 Mar. (63) | 0 Sat. . | 159-8391 | 801-5944 | 225-3963 | 4146 |
| 22 Mar. (81) | 6 Fri. . | 7 24 44 | 22 Mar. (81) | 6 Fri. . | 194-5725 | 737-8780 | 276-7058 | 4147 |

TABLE

| CONCURRENT YEAR | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|-----------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mōhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4148 | 969 | 1104 | 453 | 221-22 | 1046-47 | 20 Vyaya . | 22 Sarvadhārin . | ... |
| 4149 | 970 | 1105 | 454 | 222-23 | 1047-48 | 21 Sarvajit . | 23 Virōdhin . | 5 Śrāvaga . |
| 4150 | 971 | 1106 | 455 | 223-24 | *1048-49 | 22 Sarvadhārin . | 24 Vikṛita . | ... |
| 4151 | 972 | 1107 | 456 | 224-25 | 1049-50 | 23 Virōdhin . | 25 Khara . | ... |
| 4152 | 973 | 1108 | 457 | 225-26 | 1050-51 | 24 Vikṛita . | 26 Nandana . | 3 Jyēṣṭha . |
| 4153 | 974 | 1109 | 458 | 226-27 | 1051-52 | 25 Khara . | 27 Vijaya . | ... |
| 4154 | 975 | 1110 | 459 | 227-28 | *1052-53 | 26 Nandana . | 28 Jaya . | ... |
| 4155 | 976 | 1111 | 460 | 228-29 | 1053-54 | 27 Vijaya . | 29 Manmatha . | 2 Vaiśākha . |
| 4156 | 977 | 1112 | 461 | 229-30 | 1054-55 | 28 Jaya . | 30 Darmukha . | ... |
| 4157 | 978 | 1113 | 462 | 230-31 | 1055-56 | 29 Manmatha . | 31 Hēmalamba . | 6 Bhādrapada |
| 4158 | 979 | 1114 | 463 | 231-32 | *1056-57 | 30 Darmukha . | 32 Vilamba . | ... |
| 4159 | 980 | 1115 | 464 | 232-33 | 1057-58 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4160 | 981 | 1116 | 465 | 233-34 | 1058-59 | 32 Vilamba . | 34 Śārvarin . | 4 Āshāḍha . |
| 4161 | 982 | 1117 | 466 | 234-35 | *1059-60 | 33 Vikārin . | 35 Plava . | ... |
| 4162 | 983 | 1118 | 467 | 235-36 | *1060-61 | 34 Śārvarin . | 36 Śubhakṛit . | ... |
| 4163 | 984 | 1119 | 468 | 236-37 | 1061-62 | 35 Plava . | 37 Śobhana . | 3 Jyēṣṭha . |
| 4164 | 985 | 1120 | 469 | 237-38 | 1062-63 | 36 Śubhakṛit . | 38 Krōdhin . | ... |
| 4165 | 986 | 1121 | 470 | 238-39 | 1063-64 | 37 Śobhana . | 39 Viśvāvasu . | 7 Āsvina |
| 4166 | 987 | 1122 | 471 | 239-40 | *1064-65 | 38 Krōdhin . | 40 Parābhava . | ... |
| 4167 | 988 | 1123 | 472 | 240-41 | 1065-66 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4168 | 989 | 1124 | 473 | 241-42 | 1066-67 | 40 Parābhava . | 42 Kilaka . | 5 Śrāvaga |
| 4169 | 990 | 1125 | 474 | 242-43 | 1067-68 | 41 Plavaṅga . | 43 Saumya . | ... |
| 4170 | *991 | 1126 | 475 | 243-44 | *1068-69 | 42 Kilaka . | 44 Sādhārāga | ... |
| 4171 | 992 | 1127 | 476 | 244-45 | 1069-70 | 43 Saumya . | 45 Virōdhakṛit . | 3 Jyēṣṭha |
| 4172 | 993 | 1128 | 477 | 245-46 | 1070-71 | 44 Sādhārāga . | 46 Paridhāvin . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|---------------------------------|--|-----------|-----------|----------|----------------------|------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kaū. |
| Day and month, A.D. | Week-day. | Time of true Mésha-sam. krānti. | Day and month, A.D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| 22 Mar. (81) | 0 Sat. . | H. M. S. 13 36 53 | 11 Mar. (70) | 3 Tues. . | 79-2354 | 585-1221 | 245-8826 | 4148 |
| 22 Mar. (81) | 1 Sun. . | 19 49 2 | 28 Feb. (59) | 0 Sat. . | 9945-9581 | 432-3661 | 215-0594 | 4149 |
| 22 Mar. (82) | 3 Tues. . | 2 1 11 | 18 Mar. (78) | 6 Fri. . | 9980-6466 | 368-3596 | 266-3697 | 4150 |
| 22 Mar. (81) | 4 Wed. . | 8 13 20 | 7 Mar. (66) | 3 Tues. . | 9856-3634 | 215-6036 | 235-5466 | 4151 |
| 22 Mar. (81) | 5 Thur. . | 14 25 29 | 25 Feb. (56) | 1 Sun. . | 76-7183 | 99-1393 | 267-7336 | 4152 |
| 22 Mar. (81) | 6 Fri. . | 20 37 38 | 16 Mar. (75) | 0 Sat. . | 105-4066 | 35-1328 | 258-771 ^a | 4153 |
| 22 Mar. (82) | 1 Sun. . | 2 49 47 | 4 Mar. (64) | 4 Wed. . | 9981-1235 | 882-3769 | 227-9483 | 4154 |
| 22 Mar. (81) | 2 Mon. . | 9 1 56 | 22 Feb. (53) | 2 Mon. . | 195-4783 | 767-9126 | 199-8629 | 4155 |
| 22 Mar. (81) | 3 Tues. . | 15 14 5 | 13 Mar. (72) | 1 Sun. . | 230-1690 | 701-9001 | 231-1734 | 4156 |
| 22 Mar. (81) | 4 Wed. . | 21 26 14 | 2 Mar. (61) | 5 Thur. . | 105-8835 | 549-1501 | 229-3561 | 4157 |
| 22 Mar. (82) | 6 Fri. . | 3 38 23 | 20 Mar. (80) | 4 Wed. . | 140-5659 | 485-1435 | 271-6095 | 4158 |
| 22 Mar. (81) | 0 Sat. . | 9 50 32 | 9 Mar. (68) | 1 Sun. . | 16-2888 | 333-3876 | 240-8375 | 4159 |
| 22 Mar. (81) | 1 Sun. . | 16 2 41 | 26 Feb. (57) | 5 Thur. . | 9892-0116 | 179-6317 | 210-0142 | 4160 |
| 22 Mar. (81) | 2 Mon. . | 22 14 50 | 17 Mar. (76) | 4 Wed. . | 9926-6940 | 115-6452 | 261-3246 | 4161 |
| 22 Mar. (82) | 4 Wed. . | 4 26 59 | 6 Mar. (66) | 2 Mon. . | 141-0488 | 999-1608 | 233-2391 | 4162 |
| 22 Mar. (81) | 5 Thur. . | 10 39 8 | 23 Feb. (54) | 6 Fri. . | 16-7716 | 856-4049 | 202-4159 | 4163 |
| 22 Mar. (81) | 6 Fri. . | 16 51 17 | 14 Mar. (73) | 5 Thur. . | 51-4540 | 782-3983 | 253-7264 | 4164 |
| 22 Mar. (81) | 0 Sat. . | 23 3 26 | 4 Mar. (63) | 3 Tues. . | 265-8089 | 665-9341 | 225-6409 | 4165 |
| 22 Mar. (82) | 2 Mon. . | 5 15 35 | 21 Mar. (81) | 1 Sun. . | 9961-8593 | 565-6363 | 274-2135 | 4166 |
| 22 Mar. (81) | 3 Tues. . | 11 27 44 | 10 Mar. (60) | 5 Thur. . | 9837-5821 | 412-8799 | 243-3993 | 4167 |
| 22 Mar. (81) | 4 Wed. . | 17 39 53 | 28 Feb. (59) | 3 Tues. . | 51-9369 | 296-4157 | 215-3059 | 4168 |
| 22 Mar. (81) | 5 Thur. . | 23 52 2 | 18 Mar. (77) | 1 Sun. . | 9747-9874 | 196-1174 | 263-8775 | 4169 |
| 22 Mar. (82) | 0 Sat. . | 6 4 11 | 7 Mar. (67) | 6 Fri. . | 9963-3421 | 79-6532 | 235-7921 | 4170 |
| 22 Mar. (81) | 1 Sun. . | 12 16 20 | 25 Feb. (56) | 4 Wed. . | 176-6970 | 963-1838 | 207-7067 | 4171 |
| 22 Mar. (81) | 2 Mon. . | 18 28 29 | 16 Mar. (75) | 3 Tues. . | 211-3794 | 899-1823 | 259-0172 | 4172 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēchādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4173 | 994 | 1129 | 478 | 246-47 | 1071-72 | 45 Viśākhakṛit . | 47 Pramādin . | { 8 Kārttika . 9 Mārgaśīrṣa (<i>ksh</i>) } |
| 4174 | 995 | 1130 | 479 | 247-48 | *1072-73 | 46 Paridhāvin . | 48 Ānanda . | 2 Vaiśākha . |
| 4175 | 996 | 1131 | 480 | 248-49 | 1073-74 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4176 | 997 | 1132 | 481 | 249-50 | 1074-75 | 48 Ānanda . | 50 Ananta . | 6 Bhādrapada . |
| 4177 | 998 | 1133 | 482 | 250-51 | 1075-76 | 49 Rākshasa . | 52 Kālayukta . | ... |
| 4178 | 999 | 1134 | 483 | 251-52 | *1076-77 | 50 Ananta . | 53 Siddhārthin . | ... |
| 4179 | 1000 | 1135 | 484 | 252-53 | 1077-78 | 51 Piṅgala . | 54 Raudra . | 4 Āshāḍha . |
| 4180 | 1001 | 1136 | 485 | 253-54 | 1078-79 | 52 Kālayukta . | 55 Durmati . | ... |
| 4181 | 1002 | 1137 | 486 | 254-55 | 1079-80 | 53 Siddhārthin . | 56 Dandabhi . | ... |
| 4182 | 1003 | 1138 | 487 | 255-56 | *1080-81 | 54 Raudra . | 57 Rudhirōdgārin . | 3 Jyēṣṭha . |
| 4183 | 1004 | 1139 | 488 | 256-57 | 1081-82 | 55 Durmati . | 58 Raktāksha . | ... |
| 4184 | 1005 | 1140 | 489 | 257-58 | 1082-83 | 56 Dandabhi . | 59 Krōdhana . | 7 Āvina . |
| 4185 | 1006 | 1141 | 490 | 258-59 | 1083-84 | 57 Rudhirōdgārin . | 60 Kshaya . | ... |
| 4186 | 1007 | 1142 | 491 | 259-60 | *1084-85 | 58 Raktāksha . | 1 Prabhava . | ... |
| 4187 | 1008 | 1143 | 492 | 260-61 | 1085-86 | 59 Krōdhana . | 2 Vibhava . | 5 Śrāvaṇa . |
| 4188 | 1009 | 1144 | 493 | 261-62 | 1086-87 | 60 Kshaya . | 3 Śukla . | ... |
| 4189 | 1010 | 1145 | 494 | 262-63 | 1087-88 | 1 Prabhava . | 4 Pratoḍa . | ... |
| 4190 | 1011 | 1146 | 495 | 263-64 | *1088-89 | 2 Vibhava . | 5 Prajāpati . | 3 Jyēṣṭha . |
| 4191 | 1012 | 1147 | 496 | 264-65 | 1089-90 | 3 Śukla . | 6 Aṅgiras . | ... |
| 4192 | 1013 | 1148 | 497 | 265-66 | 1090-91 | 4 Pramōda . | 7 Śrīmukha . | { 8 Kārttika . 10 Pausa (<i>ksh</i>) } |
| 4193 | 1014 | 1149 | 498 | 266-67 | 1091-92 | 5 Prajāpati . | 8 Bhāva . | 1 Chaitra . |
| 4194 | 1015 | 1150 | 499 | 267-68 | *1092-93 | 6 Aṅgiras . | 9 Yavan . | ... |
| 4195 | 1016 | 1151 | 500 | 268-69 | 1093-94 | 7 Śrīmukha . | 10 Dhātṛi . | 6 Bhādrapada . |
| 4196 | 1017 | 1152 | 501 | 269-70 | 1094-95 | 8 Bhāva . | 11 Īśvara . | ... |
| 4197 | 1018 | 1153 | 502 | 270-71 | 1095-96 | 9 Yavan . | 12 Bahudhānya . | ... |

† 51 Piṅgala was suppressed in the north.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month, A.D. | Week-day. | Time of true Mēsha-sāh-krānti. | Day and month, A.D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 23 Mar. (82) | 4 Wed. | 0 40 38 | 5 Mar. (84) | 0 Sat. | 87-1923 | 746-4264 | 228-1039 | 4173 |
| 22 Mar. (82) | 5 Thur. | 6 52 47 | 22 Feb. (53) ^a | 4 Wed. | 9902-8251 | 503-6705 | 197-3706 | 4174 |
| 22 Mar. (81) | 6 Fri. | 13 4 56 | 12 Mar. (71) | 3 Tues. | 9997-5074 | 530-6639 | 248-6811 | 4175 |
| 22 Mar. (81) | 0 Sat. | 19 17 5 | 1 Mar. (60) | 0 Sat. | 9873-2303 | 376-9079 | 217-8586 | 4176 |
| 23 Mar. (82) | 2 Mon. | 1 29 14 | 20 Mar. (79) | 6 Fri. | 9907-9126 | 312-9015 | 269-1683 | 4177 |
| 22 Mar. (82) | 3 Tues. | 7 41 23 | 8 Mar. (68) | 3 Tues. | 9783-6355 | 160-1454 | 238-3451 | 4178 |
| 22 Mar. (81) | 4 Wed. | 13 53 32 | 20 Feb. (57) | 1 Sun. | 9997-9904 | 43-6812 | 210-2597 | 4179 |
| 22 Mar. (81) | 5 Thur. | 20 5 41 | 17 Mar. (76) | 0 Sat. | 32-6728 | 979-6747 | 261-5702 | 4180 |
| 23 Mar. (82) | 0 Sat. | 2 17 50 | 7 Mar. (66) | 5 Thur. | 247-0275 | 863-2103 | 232-4847 | 4181 |
| 22 Mar. (82) | 1 Sun. | 8 29 59 | 24 Feb. (55) | 2 Mon. | 122-7504 | 710-4544 | 202-6614 | 4182 |
| 22 Mar. (81) | 2 Mon. | 14 42 8 | 14 Mar. (73) | 1 Sun. | 157-4328 | 646-4478 | 253-9719 | 4183 |
| 22 Mar. (81) | 3 Tues. | 20 54 17 | 3 Mar. (62) | 5 Thur. | 33-1557 | 493-6919 | 223-1487 | 4184 |
| 23 Mar. (82) | 5 Thur. | 3 6 26 | 22 Mar. (81) | 4 Wed. | 67-8380 | 429-6854 | 274-4591 | 4185 |
| 22 Mar. (82) | 6 Fri. | 9 18 35 | 10 Mar. (70) | 1 Sun. | 9943-5609 | 276-9294 | 245-6358 | 4186 |
| 22 Mar. (81) | 0 Sat. | 15 30 43 | 27 Feb. (58) | 5 Thur. | 9819-2837 | 124-1735 | 212-8127 | 4187 |
| 22 Mar. (81) | 1 Sun. | 21 42 52 | 18 Mar. (77) | 4 Wed. | 9853-9661 | 60-1689 | 264-1231 | 4188 |
| 23 Mar. (82) | 3 Tues. | 3 55 1 | 8 Mar. (67) | 2 Mon. | 68-3209 | 943-8027 | 236-0377 | 4189 |
| 22 Mar. (82) | 4 Wed. | 10 7 10 | 26 Feb. (57) | 0 Sat. | 282-6758 | 827-2383 | 207-9522 | 4190 |
| 22 Mar. (81) | 5 Thur. | 16 19 19 | 16 Mar. (75) | 6 Fri. | 317-3382 | 763-2318 | 259-2627 | 4191 |
| 22 Mar. (81) | 6 Fri. | 22 31 28 | 5 Mar. (64) | 3 Tues. | 193-0310 | 610-4759 | 228-4395 | 4192 |
| 23 Mar. (82) | 1 Sun. | 4 43 37 | 22 Feb. (53) | 0 Sat. | 68-8039 | 457-7200 | 197-6162 | 4193 |
| 22 Mar. (82) | 2 Mon. | 10 55 46 | 12 Mar. (72) | 6 Fri. | 163-4862 | 393-7134 | 248-9266 | 4194 |
| 22 Mar. (81) | 3 Tues. | 17 7 55 | 1 Mar. (60) | 3 Tues. | 9979-2090 | 240-9577 | 218-1035 | 4195 |
| 22 Mar. (81) | 4 Wed. | 23 20 4 | 20 Mar. (79) | 2 Mon. | 13-8914 | 176-9509 | 269-4139 | 4196 |
| 23 Mar. (82) | 6 Fri. | 5 32 13 | 9 Mar. (68) | 6 Fri. | 9889-6143 | 24-1949 | 238-5907 | 4197 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>lekha</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|---------------------|---|
| Kal. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4198 | 1019 | 1154 | 503 | 271-72 | *1096-97 | 10 Dhātṛi . | 13 Pramāthin . | 4 Āshāḍha . |
| 4199 | 1020 | 1155 | 504 | 272-73 | 1097-98 | 11 Īśvara . | 14 Vikrama . | ... |
| 4200 | 1021 | 1156 | 505 | 273-74 | 1098-99 | 12 Bahudhānya . | 15 Vṛisha . | ... |
| 4201 | 1022 | 1157 | 506 | 274-75 | 1099-1100 | 13 Pramāthin . | 16 Chitrabhānu . | 3 Jyēṣṭha . |
| 4202 | 1023 | 1158 | 507 | 275-76 | *1100-01 | 14 Vikrama . | 17 Subhānu . | ... |
| 4203 | 1024 | 1159 | 508 | 276-77 | 1101-02 | 15 Vṛisha . | 18 Tāraka . | 7 Āvina . |
| 4204 | 1025 | 1160 | 509 | 277-78 | 1102-03 | 16 Chitrabhānu . | 19 Pārthiva . | ... |
| 4205 | 1026 | 1161 | 510 | 278-79 | 1103-04 | 17 Subhānu . | 20 Vyaya . | ... |
| 4206 | 1027 | 1162 | 511 | 279-80 | *1104-05 | 18 Tāraka . | 21 Sarvajit . | 4 Āshāḍha . |
| 4207 | 1028 | 1163 | 512 | 280-81 | 1105-06 | 19 Pārthiva . | 22 Sarvadhārin . | ... |
| 4208 | 1029 | 1164 | 513 | 281-82 | 1106-07 | 20 Vyaya . | 23 Virōdhin . | ... |
| 4209 | 1030 | 1165 | 514 | 282-83 | 1107-08 | 21 Sarvajit . | 24 Vikṛita . | 3 Jyēṣṭha . |
| 4210 | 1031 | 1166 | 515 | 283-84 | *1108-09 | 22 Sarvadhārin . | 25 Khara . | { 8 Kārttika 10 Pousha (<i>lekha</i>) 12 Phālguna } |
| 4211 | 1032 | 1167 | 516 | 284-85 | 1109-10 | 23 Virōdhin . | 26 Nandana . | |
| 4212 | 1033 | 1168 | 517 | 285-86 | 1110-11 | 24 Vikṛita . | 27 Vijaya . | |
| 4213 | 1034 | 1169 | 518 | 286-87 | 1111-12 | 25 Khara . | 28 Jaya . | ... |
| 4214 | 1035 | 1170 | 519 | 287-88 | *1112-13 | 26 Nandana . | 29 Manmatha . | 5 Śrāvana . |
| 4215 | 1036 | 1171 | 520 | 288-89 | 1113-14 | 27 Vijaya . | 30 Durmukha . | ... |
| 4216 | 1037 | 1172 | 521 | 289-90 | 1114-15 | 28 Jaya . | 31 Hēmalamba . | ... |
| 4217 | 1038 | 1173 | 522 | 290-01 | 1115-16 | 29 Manmatha . | 32 Vilamba . | 4 Āshāḍha . |
| 4218 | 1039 | 1174 | 523 | 291-92 | *1116-17 | 30 Durmukha . | 33 Vikārin . | ... |
| 4219 | 1040 | 1175 | 524 | 292-93 | 1117-18 | 31 Hēmalamba . | 34 Śārvarin . | ... |
| 4220 | 1041 | 1176 | 525 | 293-94 | 1118-19 | 32 Vilamba . | 35 Plava . | 2 Vaiśākha . |
| 4221 | 1042 | 1177 | 526 | 294-95 | 1119-20 | 33 Vikārin . | 36 Subhākṛit . | ... |
| 4222 | 1043 | 1178 | 527 | 295-96 | *1120-21 | 34 Śārvarin . | 37 Sohanana . | 6 Āshāḍha-pada |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | | Nali. |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | | | | |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D. | Week-day. | a | b | c | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 | |
| | | H. M. S. | | | | | | | |
| 22 Mar. (82) | 0 Sat. | 11 44 22 | 27 Feb. (58) | 4 Wed. | 103-9691 | 907-7307 | 210-5052 | 4198 | |
| 22 Mar. (81) | 1 Sun. | 17 56 31 | 17 Mar. (76) | 3 Tues. | 138-6515 | 843-7242 | 261-8157 | 4199 | |
| 23 Mar. (82) | 3 Tues. | 0 8 40 | 6 Mar. (65) | 0 Sat. | 14-3744 | 090-9683 | 230-9925 | 4200 | |
| 23 Mar. (82) | 4 Wed. | 6 20 49 | 24 Feb. (55) | 5 Thur. | 228-7291 | 574-5038 | 202-8848 | 4201 | |
| 22 Mar. (82) | 5 Thur. | 12 32 58 | 13 Mar. (73) | 3 Tues. | 9924-7795 | 474-2057 | 251-4575 | 4202 | |
| 22 Mar. (81) | 6 Fri. | 18 45 7 | 2 Mar. (61) | 0 Sat. | 9800-5024 | 321-4497 | 20-6342 | 4203 | |
| 23 Mar. (82) | 1 Sun. | 0 57 16 | 21 Mar. (80) | 6 Fri. | 1835-1847 | 257-4432 | 271-9446 | 4204 | |
| 23 Mar. (82) | 2 Mon. | 7 9 25 | 11 Mar. (70) | 4 Wed. | 49-5396 | 140-9788 | 243-8592 | 4205 | |
| 22 Mar. (82) | 3 Tues. | 13 21 34 | 28 Feb. (59) | 1 Sun. | 9925-2624 | 988-2229 | 213-0361 | 4206 | |
| 22 Mar. (81) | 4 Wed. | 19 33 43 | 18 Mar. (77) | 0 Sat. | 9950-9448 | 924-2154 | 264-3464 | 4207 | |
| 23 Mar. (82) | 6 Fri. | 1 45 52 | 8 Mar. (67) | 5 Thur. | 174-2996 | 807-7521 | 236-2610 | 4208 | |
| 23 Mar. (82) | 0 Sat. | 7 58 1 | 25 Feb. (56) | 2 Mon. | 50-0225 | 654-9902 | 205-4387 | 4209 | |
| 22 Mar. (82) | 1 Sun. | 14 10 10 | 15 Mar. (75) | 1 Sun. | 84-7048 | 590-9896 | 256-7483 | 4210 | |
| 22 Mar. (81) | 2 Mon. | 20 22 19 | 4 Mar. (63) | 5 Thur. | 9960-4277 | 438-2337 | 225-9250 | 4211 | |
| 23 Mar. (82) | 4 Wed. | 2 34 28 | 23 Mar. (82) | 4 Wed. | 9995-1101 | 374-2271 | 277-2354 | 4212 | |
| 23 Mar. (82) | 5 Thur. | 8 46 37 | 12 Mar. (71) | 1 Sun. | 9870-8330 | 221-4712 | 246-4122 | 4213 | |
| 22 Mar. (82) | 6 Fri. | 14 58 46 | 1 Mar. (61) | 6 Fri. | 85-1877 | 105-0069 | 218-3269 | 4214 | |
| 22 Mar. (81) | 0 Sat. | 21 10 55 | 20 Mar. (79) | 5 Thur. | 119-8701 | 41-0004 | 269-6373 | 4215 | |
| 23 Mar. (82) | 2 Mon. | 3 23 4 | 9 Mar. (68) | 2 Mon. | 9995-5930 | 888-3444 | 238-8140 | 4216 | |
| 23 Mar. (82) | 3 Tues. | 9 35 13 | 27 Feb. (58) | 0 Sat. | 209-9478 | 771-7891 | 210-7286 | 4217 | |
| 22 Mar. (82) | 4 Wed. | 15 47 22 | 17 Mar. (77) | 6 Fri. | 244-6302 | 707-7736 | 262-0391 | 4218 | |
| 22 Mar. (81) | 5 Thur. | 21 59 31 | 6 Mar. (65) | 3 Tues. | 120-3530 | 555-0176 | 231-2158 | 4219 | |
| 23 Mar. (82) | 0 Sat. | 4 11 40 | 23 Feb. (54) | 0 Sat. | 9996-0759 | 402-2617 | 200-3925 | 4220 | |
| 23 Mar. (82) | 1 Sun. | 10 23 49 | 14 Mar. (73) | 6 Fri. | 30-7582 | 338-2532 | 251-7030 | 4221 | |
| 22 Mar. (82) | 2 Mon. | 16 35 58 | 2 Mar. (62) | 3 Tues. | 9906-4811 | 185-4993 | 220-8798 | 4222 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adbika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|----------------------|----------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Meshādī solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4223 | 1044 | 1179 | 528 | 296-97 | 1121-22 | 35 Plava . . | 38 Krōdhin . . | ... |
| 4224 | 1045 | 1180 | 529 | 297-98 | 1122-23 | 36 Śubhakrit . . | 39 Viśvāvasu . . | ... |
| 4225 | 1046 | 1181 | 530 | 298-99 | 1123-24 | 37 Śōbhana . . | 40 Parābhava . . | 4 Āshādha . . |
| 4226 | 1047 | 1182 | 531 | 299-300 | *1124-25 | 38 Krōdhin . . | 41 Plavaṅga . . | ... |
| 4227 | 1048 | 1183 | 532 | 300-01 | 1125-26 | 39 Viśvāvasu . . | 42 Kilaka . . | ... |
| 4228 | 1049 | 1184 | 533 | 301-02 | 1126-27 | 40 Parābhava . . | 43 Saumya . . | 3 Jyēṣṭha . . |
| 4229 | 1050 | 1185 | 534 | 302-03 | 1127-28 | 41 Plavaṅga . . | 44 Sādhārāpa . . | ... |
| 4230 | 1051 | 1186 | 535 | 303-04 | *1128-29 | 42 Kilaka . . | 45 Virōdhakrit . . | 12 Phālguna† . . |
| 4231 | 1052 | 1187 | 536 | 304-05 | 1129-30 | 43 Saumya . . | 46 Paridhāvin . . | ... |
| 4232 | 1053 | 1188 | 537 | 305-06 | 1130-31 | 44 Sādhārāpa . . | 47 Pramādin . . | ... |
| 4233 | 1054 | 1189 | 538 | 306-07 | 1131-32 | 45 Virōdhakrit . . | 48 Ānanda . . | 5 Śrāvaṇa . . |
| 4234 | 1055 | 1190 | 539 | 307-08 | *1132-33 | 46 Paridhāvin . . | 49 Rākṣasa . . | ... |
| 4235 | 1056 | 1191 | 540 | 308-09 | 1133-34 | 47 Pramādin . . | 50 Anala . . | ... |
| 4236 | 1057 | 1192 | 541 | 309-10 | 1134-35 | 48 Ānanda . . | 51 Piṅgala . . | 4 Āshādha . . |
| 4237 | 1058 | 1193 | 542 | 310-11 | 1135-36 | 49 Rākṣasa . . | 52 Kālayukta . . | ... |
| 4238 | 1059 | 1194 | 543 | 311-12 | *1136-37 | 50 Anala . . | 53 Siddhārthin . . | ... |
| 4239 | 1060 | 1195 | 544 | 312-13 | 1137-38 | 51 Piṅgala . . | 54 Raudra . . | 2 Vaiśākha . . |
| 4240 | 1061 | 1196 | 545 | 313-14 | 1138-39 | 52 Kālayukta . . | 55 Durmati . . | ... |
| 4241 | 1062 | 1197 | 546 | 314-15 | 1139-40 | 53 Siddhārthin . . | 56 Dundubhi . . | 6 Bhādrapada . . |
| 4242 | 1063 | 1198 | 547 | 315-16 | *1140-41 | 54 Raudra . . | 57 Rudhīr'dgārin . . | ... |
| 4243 | 1064 | 1199 | 548 | 316-17 | 1141-42 | 55 Durmati . . | 58 Raktāksha . . | ... |
| 4244 | 1065 | 1200 | 549 | 317-18 | 1142-43 | 56 Dundubhi . . | 59 Krōdhana . . | 4 Āshādha . . |
| 4245 | 1066 | 1201 | 550 | 318-19 | 1143-44 | 57 Rudhīr'dgārin . . | 60 Kshaya . . | ... |
| 4246 | 1067 | 1202 | 551 | 319-20 | *1144-45 | 58 Raktāksha . . | 1 Prabhava . . | ... |
| 4247 | 1068 | 1203 | 552 | 320-21 | 1145-46 | 59 Krōdhana . . | 2 Vibhava . . | 3 Jyēṣṭha . . |

† See "Remarks," p. 455 above.

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-saṁkrānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 22 Mar. (81) | 3 Tues. | 22 48 7 | 21 Mar. (80) | 2 Mon. | 9941-1635 | 121-4928 | 272-1562 | 4223 |
| 23 Mar. (82) | 5 Thur. | 5 0 16 | 11 Mar. (70) | 0 Sat. | 155-5183 | 5-0284 | 244-1047 | 4224 |
| 23 Mar. (82) | 6 Fri. | 11 12 25 | 28 Feb. (59) | 4 Wed. | 31-2411 | 852-2724 | 213-2826 | 4225 |
| 22 Mar. (82) | 0 Sat. | 17 24 34 | 18 Mar. (78) | 3 Tues. | 65-9236 | 788-2659 | 264-5920 | 4226 |
| 22 Mar. (81) | 1 Sun. | 23 36 43 | 8 Mar. (67) | 1 Sun. | 280-2784 | 671-8016 | 236-5066 | 4227 |
| 23 Mar. (82) | 3 Tues. | 5 48 52 | 25 Feb. (56) | 5 Thur. | 156-0012 | 519-0457 | 205-6833 | 4228 |
| 23 Mar. (82) | 4 Wed. | 12 1 1 | 15 Mar. (74) | 3 Tues. | 9852-0519 | 418-7475 | 254-2560 | 4229 |
| 22 Mar. (82) | 5 Thur. | 18 13 10 | 3 Mar. (63) | 0 Sat. | 9727-7745 | 265-9915 | 223-4328 | 4230 |
| 23 Mar. (82) | 0 Sat. | 0 25 19 | 22 Mar. (81) | 6 Fri. | 9762-4568 | 261-9851 | 274-7432 | 4231 |
| 23 Mar. (82) | 1 Sun. | 6 37 27 | 12 Mar. (71) | 4 Wed. | 9976-8117 | 85 5207 | 246-6577 | 4232 |
| 23 Mar. (82) | 2 Mon. | 12 49 36 | 2 Mar. (61) | 2 Mon. | 191-1665 | 969-0564 | 218-5724 | 4233 |
| 22 Mar. (82) | 3 Tues. | 19 1 45 | 26 Mar. (80) | 1 Sun. | 225-8489 | 905-0499 | 269-8828 | 4234 |
| 23 Mar. (82) | 5 Thur. | 1 13 54 | 9 Mar. (68) | 5 Thur. | 101-5717 | 762-2939 | 239-6596 | 4235 |
| 23 Mar. (82) | 6 Fri. | 7 26 3 | 26 Feb. (57) | 2 Mon. | 9977-2946 | 599-5380 | 268-2363 | 4236 |
| 23 Mar. (82) | 0 Sat. | 13 38 12 | 17 Mar. (76) | 1 Sun. | 11-9770 | 535-5314 | 259-5468 | 4237 |
| 22 Mar. (82) | 1 Sun. | 19 50 21 | 5 Mar. (65) | 5 Thur. | 9887-6999 | 382-7755 | 228-7236 | 4238 |
| 23 Mar. (82) | 3 Tues. | 2 2 30 | 22 Feb. (53) | 2 Mon. | 9703-4226 | 230-1095 | 197-9004 | 4239 |
| 23 Mar. (82) | 4 Wed. | 8 14 39 | 13 Mar. (72) | 1 Sun. | 9798-1050 | 166-0130 | 249-2108 | 4240 |
| 23 Mar. (82) | 5 Thur. | 14 26 48 | 3 Mar. (62) | 6 Fri. | 12-4599 | 49-5488 | 221-1253 | 4241 |
| 22 Mar. (82) | 6 Fri. | 20 38 57 | 21 Mar. (81) | 5 Thur. | 47-1422 | 985-5422 | 272-4358 | 4242 |
| 23 Mar. (82) | 1 Sun. | 2 51 6 | 11 Mar. (70) | 3 Tues. | 261-4971 | 869-0779 | 244-3503 | 4243 |
| 23 Mar. (82) | 2 Mon. | 9 3 15 | 28 Feb. (59) | 0 Sat. | 137-2199 | 716-3219 | 214-5272 | 4244 |
| 23 Mar. (82) | 3 Tues. | 15 15 24 | 19 Mar. (78) | 6 Fri. | 171-9024 | 652-3154 | 264-8376 | 4245 |
| 23 Mar. (82) | 4 Wed. | 21 27 33 | 7 Mar. (67) | 3 Tues. | 47-6251 | 499-5595 | 274-0143 | 4246 |
| 23 Mar. (82) | 6 Fri. | 3 39 42 | 24 Feb. (55) | 0 Sat. | 9923-3480 | 346-5035 | 203-1511 | 4247 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>ekhas</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māshādi solar year in Bengal. | Kollam. | A. D. | Jovian Sānyatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4248 | 1069 | 1204 | 553 | 321-22 | 1146-47 | 60 Kahaya . | 3 Śukla . | { 8 Kārttika 9 Mārgas: (<i>ek</i>) 12 Phālguna ... |
| 4249 | 1070 | 1205 | 554 | 322-23 | 1147-48 | 1 Prabhava . | 4 Pramōda . | |
| 4250 | 1071 | 1206 | 555 | 323-24 | *1148-49 | 2 Vibhava . | 5 Prajāpati . | |
| 4251 | 1072 | 1207 | 556 | 324-25 | 1149-50 | 3 Śukla . | 6 Angiras . | ... |
| 4252 | 1073 | 1208 | 557 | 325-26 | 1150-51 | 4 Pramōda . | 7 Śrīmukha . | 5 Śrāvapa . |
| 4253 | 1074 | 1209 | 558 | 326-27 | 1151-52 | 5 Prajāpati . | 8 Bhāva . | ... |
| 4254 | 1075 | 1210 | 559 | 327-28 | *1152-53 | 6 Angiras . | 9 Yuvan . | ... |
| 4255 | 1076 | 1211 | 560 | 328-29 | 1153-54 | 7 Śrīmukha . | 10 Dhātṛi . | 4 Āshāḍha . |
| 4256 | 1077 | 1212 | 561 | 329-30 | 1154-55 | 8 Bhāva . | 11 Jāvara . | ... |
| 4257 | 1078 | 1213 | 562 | 330-31 | 1155-56 | 9 Yuvan . | 12 Bahudhānya . | ... |
| 4258 | 1079 | 1214 | 563 | 331-32 | *1156-57 | 10 Dhātṛi . | 13 Pramāthin . | 2 Vaiśākha . |
| 4259 | 1080 | 1215 | 564 | 332-33 | 1157-58 | 11 Jāvara . | 14 Vikrama . | ... |
| 4260 | 1081 | 1216 | 565 | 333-34 | 1158-59 | 12 Bahudhānya . | 15 Vṛisha . | 6 Bhādrapada . |
| 4261 | 1082 | 1217 | 566 | 334-35 | 1159-60 | 13 Pramāthin . | 16 Chitrabhānu† | ... |
| 4262 | 1083 | 1218 | 567 | 335-36 | *1160-61 | 14 Vikrama . | 18 Tāraṇa . | ... |
| 4263 | 1084 | 1219 | 568 | 336-37 | 1161-62 | 15 Vṛisha . | 19 Pārthiva . | 4 Āshāḍha . |
| 4264 | 1085 | 1220 | 569 | 337-38 | 1162-63 | 16 Chitrabhānu . | 20 Vyaya . | ... |
| 4265 | 1086 | 1221 | 570 | 338-39 | 1163-64 | 17 Subhānu . | 21 Sarvajit . | ... |
| 4266 | 1087 | 1222 | 571 | 339-40 | *1164-65 | 18 Tāraṇa . | 22 Sarvadhārin . | 3 Jyēṣṭha . |
| 4267 | 1088 | 1223 | 572 | 340-41 | 1165-66 | 19 Pārthiva . | 23 Virōdhin . | { 7 Āsvina 10 Pousa (<i>ek</i>) 12 Phālguna ... |
| 4268 | 1089 | 1224 | 573 | 341-42 | 1166-67 | 20 Vyaya . | 24 Vikṛita . | |
| 4269 | 1090 | 1225 | 574 | 342-43 | 1167-68 | 21 Sarvajit . | 25 Khara . | |
| 4270 | 1091 | 1226 | 575 | 343-44 | *1168-69 | 22 Sarvadhārin . | 26 Xandana . | ... |
| 4271 | 1092 | 1227 | 576 | 344-45 | 1169-70 | 23 Virōdhin . | 27 Vijaya . | 5 Śrāvapa . |
| 4272 | 1093 | 1228 | 577 | 345-46 | 1170-71 | 24 Vikṛita . | 28 Jaya . | ... |

† 17 Subhānu was suppressed in the north.

LXXXII.—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|-------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-samkrānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | 1 |
| | | H. M. S. | | | | | | |
| 23 Mar. (82) | 0 Sat. | 9 51 51 | 15 Mar. (74) | 6 Fri. | 9958-0304 | 282-7970 | 254-5016 | 4248 |
| 23 Mar. (82) | 1 Sun. | 16 4 0 | 4 Mar. (63) | 3 Tues. | 9833-7532 | 129-0410 | 223-6783 | 4249 |
| 22 Mar. (82) | 2 Mon. | 22 16 9 | 22 Mar. (82) | 2 Mon. | 9868-4356 | 66-0346 | 274-9887 | 4250 |
| 23 Mar. (82) | 4 Wed. | 4 28 18 | 12 Mar. (71) | 0 Sat. | 82-7905 | 949-5702 | 246-9033 | 4251 |
| 23 Mar. (82) | 5 Thur. | 10 40 27 | 2 Mar. (61) | 5 Thur. | 297-1453 | 833-1059 | 218-6180 | 4252 |
| 23 Mar. (82) | 6 Fri. | 16 52 36 | 21 Mar. (80) | 4 Wed. | 331-8276 | 769-0094 | 270-1283 | 4253 |
| 22 Mar. (82) | 0 Sat. | 23 4 45 | 9 Mar. (69) | 1 Sun. | 207-5505 | 616-3435 | 239-3051 | 4254 |
| 23 Mar. (82) | 2 Mon. | 5 16 54 | 26 Feb. (57) | 5 Thur. | 83-2734 | 463-5875 | 208-4819 | 4255 |
| 23 Mar. (82) | 3 Tues. | 11 29 3 | 16 Mar. (75) | 3 Tues. | 9779-3237 | 363-2894 | 257-6546 | 4256 |
| 23 Mar. (82) | 4 Wed. | 17 41 12 | 6 Mar. (65) | 1 Sun. | 9993-6786 | 246-8250 | 228-9691 | 4257 |
| 22 Mar. (82) | 5 Thur. | 23 53 21 | 23 Feb. (54) | 5 Thur. | 9869-4024 | 94-0691 | 198-1458 | 4258 |
| 23 Mar. (82) | 0 Sat. | 6 5 30 | 13 Mar. (72) | 4 Wed. | 9904-0838 | 30-0625 | 249-4563 | 4259 |
| 23 Mar. (82) | 1 Sun. | 12 17 39 | 3 Mar. (62) | 2 Mon. | 118-4386 | 613-5983 | 221-3709 | 4260 |
| 23 Mar. (82) | 2 Mon. | 18 29 48 | 22 Mar. (81) | 1 Sun. | 153-1210 | 849-5918 | 272-6813 | 4261 |
| 23 Mar. (83) | 4 Wed. | 0 41 57 | 10 Mar. (70) | 5 Thur. | 28-8439 | 696-8358 | 241-8581 | 4262 |
| 23 Mar. (82) | 5 Thur. | 6 54 6 | 27 Feb. (58) | 2 Mon. | 9904-5667 | 544-0799 | 211-0349 | 4263 |
| 23 Mar. (82) | 6 Fri. | 13 6 15 | 18 Mar. (77) | 1 Sun. | 9939-2491 | 480-0733 | 262-3454 | 4264 |
| 23 Mar. (82) | 0 Sat. | 19 18 24 | 7 Mar. (66) | 5 Thur. | 9814-9719 | 327-3173 | 231-5221 | 4265 |
| 23 Mar. (83) | 2 Mon. | 1 30 33 | 25 Feb. (56) | 3 Tues. | 29-3268 | 210-8530 | 203-4366 | 4266 |
| 23 Mar. (82) | 3 Tues. | 7 42 42 | 15 Mar. (74) | 2 Mon. | 64-0091 | 146-8465 | 255-7471 | 4267 |
| 23 Mar. (82) | 4 Wed. | 13 54 51 | 4 Mar. (63) | 6 Fri. | 9939-7320 | 994-0905 | 223-9239 | 4268 |
| 23 Mar. (82) | 5 Thur. | 20 7 0 | 23 Mar. (82) | 5 Thur. | 9974-4144 | 930-0840 | 275-2343 | 4269 |
| 23 Mar. (83) | 0 Sat. | 2 19 9 | 12 Mar. (72) | 3 Tues. | 183-7692 | 813-6193 | 247-1488 | 4270 |
| 23 Mar. (82) | 1 Sun. | 8 31 18 | 1 Mar. (60) | 0 Sat. | 6-4950 | 699-3938 | 216-3257 | 4271 |
| 23 Mar. (82) | 2 Mon. | 14 43 27 | 20 Mar. (79) | 6 Fri. | 99-1744 | 596-8573 | 267-8361 | 4272 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4273 | 1094 | 1229 | 578 | 346-47 | 1171-72 | 25 Khara . | 29 Manmatha . | ... |
| 4274 | 1095 | 1230 | 579 | 347-48 | *1172-73 | 26 Nandana . | 30 Darmukha . | 4 Āshādha . |
| 4275 | 1096 | 1231 | 580 | 348-49 | 1173-74 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4276 | 1097 | 1232 | 581 | 349-50 | 1174-75 | 28 Jaya . | 32 Vilamba . | ... |
| 4277 | 1098 | 1233 | 582 | 350-51 | 1175-76 | 29 Manmatha . | 33 Vikārin . | 2 Vaiśākha . |
| 4278 | 1099 | 1234 | 583 | 351-52 | *1176-77 | 30 Darmukha . | 34 Śārvarin . | ... |
| 4279 | 1100 | 1235 | 584 | 352-53 | 1177-78 | 31 Hēmalamba . | 35 Plava . | 6 Bhādrapada |
| 4280 | 1101 | 1236 | 585 | 353-54 | 1178-79 | 32 Vilamba . | 36 Śubhakṛit . | ... |
| 4281 | 1102 | 1237 | 586 | 354-55 | 1179-80 | 33 Vikārin . | 37 Śōbhana . | ... |
| 4282 | 1103 | 1238 | 587 | 355-56 | *1180-81 | 34 Śārvarin . | 38 Krōdhin . | 4 Āshādha . |
| 4283 | 1104 | 1239 | 588 | 356-57 | 1181-82 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4284 | 1105 | 1240 | 589 | 357-58 | 1182-83 | 36 Śubhakṛit . | 40 Parābhava . | ... |
| 4285 | 1106 | 1241 | 590 | 358-59 | 1183-84 | 37 Śōbhana . | 41 Plavaṅga . | 2 Vaiśākha . |
| 4286 | 1107 | 1242 | 591 | 359-60 | *1184-85 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4287 | 1108 | 1243 | 592 | 360-61 | 1185-86 | 39 Viśvāvasu . | 43 Saumya . | 6 Bhādrapada |
| 4288 | 1109 | 1244 | 593 | 361-62 | 1186-87 | 40 Parābhava . | 44 Sādhārāṇa . | ... |
| 4289 | 1110 | 1245 | 594 | 362-63 | 1187-88 | 41 Plavaṅga . | 45 Virōdhakṛit . | ... |
| 4290 | 1111 | 1246 | 595 | 363-64 | *1188-89 | 42 Kilaka . | 46 Paridhāvin . | 5 Śrāvāṇa . |
| 4291 | 1112 | 1247 | 596 | 364-65 | 1189-90 | 43 Saumya . | 47 Pramādin . | ... |
| 4292 | 1113 | 1248 | 597 | 365-66 | 1190-91 | 44 Sādhārāṇa . | 48 Ānanda . | ... |
| 4293 | 1114 | 1249 | 598 | 366-67 | 1191-92 | 45 Virōdhakṛit . | 49 Rākhasa . | 3 Jyēṣṭha . |
| 4294 | 1115 | 1250 | 599 | 367-68 | *1192-93 | 46 Paridhāvin . | 50 Anala . | ... |
| 4295 | 1116 | 1251 | 600 | 368-69 | 1193-94 | 47 Pramādin . | 51 Pingala . | ... |
| 4296 | 1117 | 1252 | 601 | 369-70 | 1194-95 | 48 Ānanda . | 52 Kāyukta . | 2 Vaiśākha . |
| 4297 | 1118 | 1253 | 602 | 370-71 | 1195-96 | 49 Rākhasa . | 53 Siddhārthin . | ... |

LXXXII—Contd.

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|--------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SŪKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sam-krānti. | Day and month A. D. | Week-day. | a | b | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | i |
| 23 Mar. (82) | 3 Tues. | 20 55 36 | 9 Mar. (68) | 3 Tues. | 9974-8973 | 444-1013 | 236-8129 | 4273 |
| 23 Mar. (83) | 5 Thur. | 3 7 45 | 26 Feb. (57) | 9 Sat. | 9850-6261 | 291-3454 | 205-9896 | 4274 |
| 23 Mar. (82) | 6 Fri. | 9 19 54 | 16 Mar. (75) | 6 Fri. | 9885-3025 | 227-3389 | 257-3001 | 4275 |
| 23 Mar. (82) | 0 Sat. | 15 32 3 | 6 Mar. (65) | 4 Wed. | 99-6574 | 110-8745 | 229-2147 | 4276 |
| 23 Mar. (82) | 1 Sun. | 21 44 11 | 23 Feb. (54) | 1 Sun. | 9975-3801 | 958-1187 | 198-1914 | 4277 |
| 23 Mar. (83) | 3 Tues. | 3 56 20 | 13 Mar. (73) | 0 Sat. | 10-0025 | 894-1120 | 249-7018 | 4278 |
| 23 Mar. (82) | 4 Wed. | 10 8 29 | 3 Mar. (62) | 5 Thur. | 224-4174 | 777-6478 | 221-6164 | 4279 |
| 23 Mar. (82) | 5 Thur. | 16 26 38 | 22 Mar. (81) | 4 Wed. | 259-0998 | 713-6413 | 272-9269 | 4280 |
| 23 Mar. (82) | 6 Fri. | 22 32 47 | 11 Mar. (70) | 1 Sun. | 134-8226 | 500-8853 | 242-1036 | 4281 |
| 23 Mar. (83) | 1 Sun. | 4 44 56 | 28 Feb. (59) | 5 Thur. | 10-5455 | 408-1294 | 211-2804 | 4282 |
| 23 Mar. (82) | 2 Mon. | 10 57 5 | 18 Mar. (77) | 4 Wed. | 45-2279 | 344-1228 | 262-5909 | 4283 |
| 23 Mar. (82) | 3 Tues. | 17 9 14 | 7 Mar. (66) | 1 Sun. | 9920-9507 | 191-3668 | 231-7677 | 4284 |
| 23 Mar. (82) | 4 Wed. | 23 21 23 | 24 Feb. (55) | 5 Thur. | 9796-6735 | 38-6109 | 200-9444 | 4285 |
| 23 Mar. (83) | 6 Fri. | 5 33 32 | 15 Mar. (75) | 5 Thur. | 169-9879 | 10-8960 | 254-9926 | 4286 |
| 23 Mar. (82) | 0 Sat. | 11 45 41 | 4 Mar. (63) | 2 Mon. | 45-7108 | 858-1401 | 224-1694 | 4287 |
| 23 Mar. (82) | 1 Sun. | 17 57 59 | 23 Mar. (82) | 1 Sun. | 80-3931 | 794-1335 | 275-4799 | 4288 |
| 24 Mar. (83) | 3 Tues. | 0 9 59 | 13 Mar. (72) | 6 Fri. | 204-7480 | 677-6693 | 247-3944 | 4289 |
| 23 Mar. (83) | 4 Wed. | 6 22 8 | 1 Mar. (61) | 3 Tues. | 170-4708 | 524-9133 | 216-6712 | 4290 |
| 23 Mar. (82) | 5 Thur. | 12 34 17 | 19 Mar. (78) | 1 Sun. | 9866-5213 | 424-6151 | 265-1438 | 4291 |
| 23 Mar. (82) | 6 Fri. | 18 46 26 | 8 Mar. (67) | 5 Thur. | 9742-2440 | 271-8592 | 224-3707 | 4292 |
| 24 Mar. (83) | 1 Sun. | 0 58 35 | 26 Feb. (57) | 3 Tues. | 9956-5989 | 155-3949 | 206-2352 | 4293 |
| 23 Mar. (83) | 2 Mon. | 7 10 44 | 16 Mar. (76) | 2 Mon. | 9091-2813 | 91-3884 | 257-5456 | 4294 |
| 23 Mar. (82) | 3 Tues. | 13 22 53 | 6 Mar. (65) | 0 Sat. | 205-6361 | 974-9241 | 229-4602 | 4295 |
| 23 Mar. (82) | 4 Wed. | 19 35 2 | 23 Feb. (54) | 4 Wed. | 81-3589 | 822-1741 | 198-6370 | 4296 |
| 24 Mar. (83) | 6 Fri. | 1 47 11 | 14 Mar. (73) | 3 Tues. | 116-0413 | 758-1608 | 249-9474 | 4297 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Intercalated (<i>adhika</i>) and suppressed (<i>kshaya</i>) true lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|----------------------|--|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A. D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4298 | 1119 | 1254 | 603 | 371-72 | *1196-97 | 50 Anala . . | 54 Raudra . . | 6 Bhādrapada |
| 4299 | 1120 | 1255 | 604 | 372-73 | 1197-98 | 51 Piṅgala . . | 55 Durmati . . | ... |
| 4300 | 1121 | 1256 | 605 | 373-74 | 1198-99 | 52 Kālayukta . . | 56 Dundubhi . . | ... |
| 4201 | 1122 | 1257 | 606 | 374-75 | 1199-1200 | 53 Siddhārthin . . | 57 Rudhīrōdgārin . . | 4 Āshāḍha . . |
| 4302 | 1123 | 1258 | 607 | 375-76 | *1200-01 | 54 Raudra . . | 58 Baktāksha . . | ... |

LXXXII—*Concl.*

| COMMENCEMENT OF THE | | | | | | | | |
|---------------------|-----------|---------------------------------|--|-----------|-----------|----------|----------|-------|
| SOLAR YEAR. | | | LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | | Kali. |
| Day and month A. D. | Week-day. | Time of true Mēsha-sath-krānti. | Day and month A. D. | Week-day. | α | δ | c | |
| 13 | 14 | 17 | 19 | 20 | 23 | 24 | 25 | |
| | | H. M. S. | | | | | | |
| 23 Mar. (83) | 0 Sat. | 7 59 20 | 2 Mar. (62) | 0 Sat. | 9991-7641 | 605-4056 | 219-1242 | 4298 |
| 23 Mar. (82) | 1 Sun. | 14 11 29 | 21 Mar. (80) | 6 Fri. | 26-4465 | 541-3991 | 270-4346 | 4299 |
| 23 Mar. (82) | 2 Mon. | 20 23 38 | 10 Mar. (69) | 3 Tues. | 9902-1694 | 388-6432 | 239-6115 | 4300 |
| 24 Mar. (83) | 4 Wed. | 2 35 47 | 27 Feb. (58) | 0 Sat. | 9777-8923 | 235-8872 | 268-7680 | 4301 |
| 23 Mar. (83) | 5 Thur. | 8 47 56 | 17 Mar. (77) | 6 Fri. | 9812-5747 | 171-8807 | 260-0765 | 4302 |

TABLE LXXIII.-A.

DURATION AND COLLECTIVE DURATION OF TRUE SOLAR MONTHS, WITH INCREASE OF "a" "b" "c" "AT EACH TRUE SAMKRĀNTI."

By the Brahma-Siddhānta.

Calculated for the year K. Y. 4500, (expired), A. D. 899—900.

"a" in 10,000ths of circle; "b" and "c" in 1,000ths; "sun" = solar samkrānti.

| Luni-solar month (ending at the second of the two solar sam- krāntis connec- ted with it). | t | At true solar samkrānti. | Collective duration in days, hours, etc., and collective increase of a, b, c from true Mēsha-samkrānti to each true samkrānti. | | | | | | | | At true solar samkrānti. | Length of solar month preceding each true samkrānti, and increase of a, b, c between each such samkrānti. | | | | | | |
|---|---|---|--|-----|----|----|----|-----------|----------------|----------|-----------------------------|---|----|----|----|-----------|----------|---------|
| | | | Day. | H. | M. | S. | a | b | c | Day. | | H. | M. | S. | a | b | c | |
| | | | | | | | | | | | | | | | | | | Week |
| | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | |
| 1. Chaitra | { | { Mīna-sam. (of preceding year). Mēsha-sam. . . | 0 | 0 | 0 | 0 | 0 | 0 | Mēsha-sam. . . | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| 2. Vaiśākha | | { Vriśabha-sam | 30 | (2) | 22 | 21 | 9 | 474-3381 | 122-5490 | 84-6833 | 30 | (2) | 22 | 21 | 9 | 474-3381 | 122-5490 | 84-6833 |
| 3. Jyēṣṭha | | { Mithuna-sam. | 62 | (6) | 8 | 15 | 57 | 1111-7956 | 262-5752 | 170-6856 | 31 | (3) | 9 | 54 | 48 | 637-4575 | 140-0202 | 86-0023 |
| 4. Āṣāḍha | | { Karka-sam. | 93 | (2) | 23 | 12 | 15 | 1820-1580 | 410-2049 | 257-2610 | 31 | (3) | 14 | 56 | 18 | 708-3024 | 147-0207 | 86-5754 |
| 5. Śrāvaṇa | | { Sīṁha-sam. | 125 | (6) | 10 | 42 | 48 | 2480-1360 | 552-0492 | 343-4452 | 31 | (3) | 11 | 30 | 33 | 650-0780 | 142-4443 | 86-1842 |
| 6. Bhādrapada | | { Kanyā-sam. | 156 | (2) | 11 | 41 | 2 | 2991-4178 | 679-1575 | 428-4273 | 31 | (3) | 0 | 58 | 15 | 511-2818 | 126-5083 | 84-9821 |
| 7. Āśvina | | { Tula-sam. | 186 | (4) | 22 | 35 | 29 | 3304-2747 | 784-4003 | 511-8051 | 30 | (2) | 10 | 54 | 27 | 312-8509 | 105-2428 | 83-3778 |
| 8. Kārtika | | { Vriśabha-sam. | 216 | (6) | 20 | 28 | 50 | 3433-4472 | 869-9374 | 593-6979 | 29 | (1) | 21 | 53 | 21 | 120-1725 | 85-5571 | 81-8928 |
| 9. Mārgaśīra | | { Dhanu-sam. | 246 | (1) | 8 | 0 | 47 | 3416-4006 | 939-8537 | 674-4062 | 29 | (1) | 11 | 31 | 57 | 9983-0434 | 69-8963 | 80-7113 |
| 10. Pausa | | { Makara-sam. | 275 | (2) | 16 | 6 | 58 | 3351-2241 | 4-5725 | 754-7299 | 29 | (1) | 8 | 6 | 11 | 9934-7335 | 64-7188 | 80-3207 |
| 1. Māgha | | { Kumbha-sam. | 305 | (4) | 2 | 49 | 9 | 3322-6344 | 73-2145 | 835-3465 | 29 | (1) | 10 | 42 | 11 | 9971-3403 | 68-0420 | 80-6167 |
| 2. Phalguṇa | | { Mīna-sam. | 334 | (5) | 22 | 4 | 25 | 3414-5580 | 154-7871 | 916-9387 | 29 | (1) | 19 | 15 | 16 | 91-0036 | 81-5725 | 81-5921 |
| 1. Chaitra (of following year. | { | { Mēsha-sam. (of following year) | 305 | (1) | 6 | 12 | 9 | 3688-2056 | 255-8315 | 1000-0 | 30 | (2) | 8 | 7 | 44 | 273-6476 | 101-0407 | 83-0608 |

TABLE LXXXIII-B.

VALUE OF "e" AND OF "EQUATION e" AT THE SEVERAL TRUE SAMKRĀNTIS.

Correct for K. Y. 4000, A. D. 899-900.

"e" in 1,000ths of circle, "equation e" in 10,000ths.

| Samkrānti. | e | "Equation e." |
|------------------|----------|---------------|
| Mēsha-sam. . | 277-6064 | 0-9037 |
| Vṛishabha-sam. . | 362-2899 | 14-4355 |
| Mithuna-sam. . | 448-2921 | 41-1356 |
| Karka-sam. . | 534-8676 | 73-5542 |
| Sirisha-sam. . | 621-0519 | 102-0578 |
| Kanyā-sam. . | 706-0241 | 118-5381 |
| Tulā-sam. . | 789-4020 | 118-9561 |
| Vṛiśchika-sam. . | 871-2948 | 104-1144 |
| Dhanu-sam. . | 952-6062 | 78-3666 |
| Makara-sam. . | 32-3264 | 48-2336 |
| Kumbha-sam. . | 112-9432 | 21-0624 |
| Mina-sam. . | 194-5355 | 3-6494 |

TABLE LXXXIII-C.

EXACT VALUE OF "e" AND OF "EQUATION e" AT THE MOMENT OF TRUE MĒSHA-SAMKRĀNTI
AT BEGINNING OF EACH CENTURY K. Y.*"e" in 1,000ths of circle, "Equation e" in 10,000ths.*

| K. Y. | A. D. | e | "Eqn. e." |
|-------|-----------|----------|-----------|
| 3700 | 599-600 | 277-6399 | 0-93 |
| 3800 | 699-700 | 277-6287 | 0-93 |
| 3900 | 799-800 | 277-6175 | 0-93 |
| 4000 | 899-900 | 277-6064 | 0-93 |
| 4100 | 999-1000 | 277-5952 | 0-93 |
| 4200 | 1099-1100 | 277-5840 | 0-93 |
| 4300 | 1199-1200 | 277-5728 | 0-93 |

TABLES LXXXIV, LXXXV.

" EQUATION *b* " AND " EQUATION *c* " IN WHOLE NUMBERS BY THE BRAHMA-SIDDHĀNTA AND
SIDDHĀNTA-SĪRĪMAṆI.

Corresponding to Tables VI, VII, " Indian Calendar."

For close detail Tables LV, LVI, (Vol. XV above) are to be used.

" Arg." = moon's (*b*) or sun's (*c*) mean anom. in 1,000ths of circle.

TABLE LXXXIV.

LUNAR " EQUATION *b*."

| Arg. | Eqn. | Arg. |
|------|------|------|
| 0 | 140 | 500 |
| 10 | 149 | 490 |
| 20 | 158 | 480 |
| 30 | 166 | 470 |
| 40 | 174 | 460 |
| 50 | 183 | 450 |
| 60 | 191 | 440 |
| 70 | 199 | 430 |
| 80 | 207 | 420 |
| 90 | 214 | 410 |
| 100 | 222 | 400 |
| 110 | 229 | 390 |
| 120 | 235 | 380 |
| 130 | 241 | 370 |
| 140 | 247 | 360 |
| 150 | 253 | 350 |
| 160 | 258 | 340 |
| 170 | 262 | 330 |
| 180 | 266 | 320 |
| 190 | 270 | 310 |
| 200 | 273 | 300 |
| 210 | 275 | 290 |
| 220 | 277 | 280 |
| 230 | 279 | 270 |
| 240 | 279 | 260 |
| 250 | 280 | 250 |

| Arg. | Eqn. | Arg. |
|------|------|------|
| 500 | 140 | 1000 |
| 510 | 131 | 990 |
| 520 | 122 | 980 |
| 530 | 114 | 970 |
| 540 | 105 | 960 |
| 550 | 97 | 950 |
| 560 | 88 | 940 |
| 570 | 80 | 930 |
| 580 | 73 | 920 |
| 590 | 65 | 910 |
| 600 | 58 | 900 |
| 610 | 51 | 890 |
| 620 | 44 | 880 |
| 630 | 38 | 870 |
| 640 | 32 | 860 |
| 650 | 27 | 850 |
| 660 | 22 | 840 |
| 670 | 17 | 830 |
| 680 | 13 | 820 |
| 690 | 10 | 810 |
| 700 | 7 | 800 |
| 710 | 4 | 790 |
| 720 | 2 | 780 |
| 730 | 1 | 770 |
| 740 | 0 | 760 |
| 750 | 0 | 750 |

TABLE LXXXV.

SOLAR " EQUATION *c*."

| Arg. | Eqn. | Arg. |
|------|------|------|
| 0 | 60 | 500 |
| 10 | 56 | 490 |
| 20 | 53 | 480 |
| 30 | 49 | 470 |
| 40 | 46 | 460 |
| 50 | 42 | 450 |
| 60 | 38 | 440 |
| 70 | 34 | 430 |
| 80 | 31 | 420 |
| 90 | 28 | 410 |
| 100 | 25 | 400 |
| 110 | 22 | 390 |
| 120 | 19 | 380 |
| 130 | 16 | 370 |
| 140 | 14 | 360 |
| 150 | 12 | 350 |
| 160 | 9 | 340 |
| 170 | 7 | 330 |
| 180 | 6 | 320 |
| 190 | 4 | 310 |
| 200 | 3 | 300 |
| 210 | 2 | 290 |
| 220 | 1 | 280 |
| 230 | 0 | 270 |
| 240 | 0 | 260 |
| 250 | 0 | 250 |

| Arg. | Eqn. | Arg. |
|------|------|------|
| 500 | 60 | 1000 |
| 510 | 64 | 990 |
| 520 | 68 | 980 |
| 530 | 72 | 970 |
| 540 | 75 | 960 |
| 550 | 79 | 950 |
| 560 | 82 | 940 |
| 570 | 86 | 930 |
| 580 | 89 | 920 |
| 590 | 93 | 910 |
| 600 | 96 | 900 |
| 610 | 99 | 890 |
| 620 | 102 | 880 |
| 630 | 104 | 870 |
| 640 | 107 | 860 |
| 650 | 109 | 850 |
| 660 | 111 | 840 |
| 670 | 113 | 830 |
| 680 | 115 | 820 |
| 690 | 117 | 810 |
| 700 | 118 | 800 |
| 710 | 119 | 790 |
| 720 | 120 | 780 |
| 730 | 120 | 770 |
| 740 | 121 | 760 |
| 750 | 121 | 750 |

AUXILIARY TABLE.

| Difference in Equa- tion. | Last figure of argument | | | | | | | | | |
|---------------------------------|-------------------------|---|--------|---|--------|---|--------|---|--------|--|
| | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
| | Add or subtract | | | | | | | | | |
| 9 | 8 | 7 | 6 | 5 | 4 or 5 | 4 | 3 | 2 | 1 | |
| 8 | 7 | 6 | 6 | 5 | 4 | 3 | 2 | 2 | 1 | |
| 7 | 6 | 6 | 5 | 4 | 3 or 4 | 3 | 2 | 1 | 1 | |
| 6 | 5 | 5 | 4 | 4 | 3 | 2 | 2 | 1 | 1 | |
| 5 | 4 or 5 | 4 | 3 or 4 | 3 | 2 or 3 | 2 | 1 or 2 | 1 | 0 or 1 | |
| 4 | 4 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | |
| 3 | 3 | 2 | 2 | 2 | 1 or 2 | 1 | 1 | 1 | 0 | |
| 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | |
| 1 | 1 | 1 | 1 | 1 | 0 or 1 | 0 | 0 | 0 | 0 | |

TABLE LXXXVI.

VALUE OF "a", "b", "c" AT BEGINNING OF CENTURIES OF THE KALIYUGA, BY THE BRAHMA-SIDDHANTA.

| K.Y. Cen- tury. | Begin- ning in A.D. | Week- day. | a | b | c |
|-----------------------|---------------------------|---------------|-----------|----------|----------|
| 37 | 599 | 0 | 6028-1929 | 719-2529 | 282-9906 |
| 38 | 699 | 6 | 4900-0921 | 308-0536 | 283-3962 |
| 39 | 799 | 6 | 3433-3593 | 860-5614 | 281-0640 |
| 40 | 899 | 6 | 2305-2584 | 449-3615 | 281-4695 |
| 41 | 999 | 6 | 1177-1576 | 38-1616 | 281-8751 |
| 42 | 1099 | 6 | 49-0567 | 626-9616 | 282-2807 |
| 43 | 1199 | 0 | 8920-9559 | 215-7617 | 282-6863 |

TABLE LXXXVII.

INCREASE OF a, b, c FOR YEARS OF KALIYUGA CENTURY

* = year of 366 days.

| Year. | Week- day. | a | b | c | Year. | Week- day. | a | b | c |
|-------|---------------|-----------|----------|----------|-------|---------------|-----------|----------|----------|
| 0 | 0 | 0 | 0 | 0 | 30 | 3 | 729-2961 | 683-8984 | 0-6759 |
| 1 | 1 | 3600-6747 | 246-4522 | 999-2925 | 31 | 4 | 4329-9708 | 930-3505 | 999-9683 |
| *2 | 2 | 7201-3494 | 492-9043 | 998-5849 | 32 | 5 | 7930-6455 | 176-8027 | 999-2608 |
| 3 | 4 | 1140-6560 | 775-6482 | 0-6151 | *33 | 6 | 1531-3202 | 423-2549 | 998-5533 |
| 4 | 5 | 4741-3307 | 22-1003 | 999-9076 | 34 | 1 | 5470-6298 | 705-9987 | 0-5835 |
| 5 | 6 | 8342-0054 | 268-5525 | 999-2601 | 35 | 2 | 9071-3615 | 952-4509 | 999-8759 |
| *6 | 0 | 1942-6800 | 515-0047 | 998-4925 | 36 | 3 | 2671-0762 | 198-9030 | 999-1684 |
| 7 | 2 | 5881-9867 | 797-7485 | 0-5227 | *37 | 4 | 6272-6599 | 445-3552 | 998-4009 |
| 8 | 3 | 9482-6614 | 44-2007 | 999-8152 | 38 | 6 | 211-0575 | 728-0990 | 0-4911 |
| 9 | 4 | 3083-3360 | 290-6528 | 999-1977 | 39 | 0 | 3812-6322 | 974-5512 | 999-7836 |
| *10 | 5 | 6684-0107 | 537-1050 | 998-4001 | 40 | 1 | 7413-3069 | 221-0034 | 999-0760 |
| 11 | 0 | 623-3174 | 819-8488 | 0-4303 | *41 | 2 | 1613-9815 | 467-4555 | 998-3685 |
| 12 | 1 | 4223-9921 | 66-3010 | 999-7228 | 42 | 4 | 4953-2882 | 750-1994 | 0-3987 |
| *13 | 2 | 7824-6667 | 312-7532 | 999-0153 | 43 | 5 | 8553-9629 | 999-6515 | 999-6912 |
| 14 | 4 | 1763-9734 | 595-4970 | 1-0455 | *44 | 6 | 2154-6376 | 243-1037 | 998-9836 |
| 15 | 5 | 5364-6481 | 841-9492 | 0-3379 | 45 | 1 | 6093-9442 | 525-8475 | 1-0458 |
| 16 | 6 | 8965-3227 | 88-4013 | 999-6304 | 46 | 2 | 9694-6189 | 772-2997 | 0-3963 |
| *17 | 0 | 2565-9974 | 334-8535 | 998-9229 | 47 | 3 | 3295-2936 | 18-7519 | 999-5988 |
| 18 | 2 | 6505-3041 | 617-5973 | 0-0531 | *48 | 4 | 6895-9682 | 265-2040 | 998-8912 |
| 19 | 3 | 105-9788 | 864-0495 | 0-2455 | 49 | 6 | 835-2749 | 547-9479 | 0-9214 |
| 20 | 4 | 3706-6534 | 110-5017 | 999-5380 | 50 | 0 | 4435-9496 | 794-4006 | 0-2139 |
| *21 | 5 | 7307-3281 | 356-9539 | 998-8305 | 51 | 1 | 8036-6243 | 40-8522 | 999-5094 |
| 22 | 0 | 1246-6348 | 630-6977 | 0-8607 | *52 | 2 | 1637-2989 | 287-3044 | 998-7988 |
| 23 | 1 | 4847-3694 | 886-1499 | 0-1531 | 53 | 4 | 5576-6056 | 570-0482 | 0-8290 |
| 24 | 2 | 8447-9841 | 132-6020 | 999-4456 | 54 | 5 | 9177-2803 | 816-5004 | 0-1215 |
| *25 | 3 | 2048-6588 | 379-0542 | 998-7381 | 55 | 6 | 2777-9549 | 62-9526 | 999-4140 |
| 26 | 5 | 5987-9655 | 661-7980 | 0-7683 | *56 | 0 | 6378-6296 | 309-4647 | 998-7064 |
| 27 | 6 | 9588-6401 | 908-2502 | 0-0607 | 57 | 2 | 317-9363 | 592-1485 | 0-7366 |
| 28 | 0 | 3189-3148 | 154-7024 | 999-3532 | 58 | 3 | 3918-6110 | 838-6007 | 0-0291 |
| *29 | 1 | 6789-9895 | 401-1545 | 998-6457 | 59 | 4 | 7519-2856 | 85-0529 | 999-3216 |

TABLE LXXXIX.

SUN'S EQUATION OF THE CENTRE AND SINE-VALUES ACCORDING TO THE BRAHMA-SIDDHANTA.

| Serial No. of sine. | SUN'S MEAN ANOM. | | | | SINE OF ANOM. ANGLE. | | EQUATION. | | SUN'S MEAN ANOM. | | | | Serial No. of sine. |
|---------------------------|------------------|----|-----|----|-------------------------|-------|-----------|--------------------------------------|------------------|--------|-----|----|---------------------------|
| | | | | | Value in minutes. | Diff. | Equation. | Difference per minute of anom. | | | | | |
| 1 | 2 | | | | 3 | 4 | 5 | 6 | 7 | | | | 1 |
| | o | ' | o | ' | ' | ' | o | ' | o | ' | o | ' | |
| 0 | 0 | 0 | 180 | 0 | 0 | 214 | 0 | 0 | 0 | 0 | 180 | 0 | 0 |
| 1 | 3 | 45 | 176 | 15 | 214 | 213 | 0 | 8 | 32-50 | 2-27 | 183 | 45 | 1 |
| 2 | 7 | 30 | 172 | 30 | 427 | 211 | 0 | 17 | 2-61 | 2-2700 | 187 | 30 | 2 |
| 3 | 11 | 15 | 168 | 45 | 638 | 208 | 0 | 25 | 27-02 | 2-2458 | 191 | 15 | 3 |
| 4 | 15 | 0 | 165 | 0 | 846 | 205 | 0 | 33 | 46-05 | 2-2128 | 195 | 0 | 4 |
| 5 | 18 | 45 | 161 | 15 | 1051 | 200 | 0 | 41 | 57-02 | 2-1822 | 198 | 45 | 5 |
| 6 | 22 | 30 | 157 | 30 | 1251 | 195 | 0 | 49 | 55-07 | 2-1287 | 202 | 30 | 6 |
| 7 | 26 | 15 | 153 | 45 | 1446 | 189 | 0 | 57 | 42-07 | 2-0755 | 206 | 15 | 7 |
| 8 | 30 | 0 | 150 | 0 | 1635 | 182 | 1 | 5 | 15-60 | 2-0117 | 210 | 0 | 8 |
| 9 | 33 | 45 | 146 | 15 | 1817 | 174 | 1 | 12 | 31-46 | 1-9372 | 213 | 45 | 9 |
| 10 | 37 | 30 | 142 | 30 | 1991 | 165 | 1 | 19 | 28-17 | 1-8520 | 217 | 30 | 10 |
| 11 | 41 | 15 | 138 | 45 | 2156 | 156 | 1 | 26 | 3-32 | 1-7562 | 221 | 15 | 11 |
| 12 | 45 | 0 | 135 | 0 | 2312 | 147 | 1 | 32 | 16-02 | 1-6604 | 225 | 0 | 12 |
| 13 | 48 | 45 | 131 | 15 | 2459 | 135 | 1 | 38 | 8-06 | 1-5646 | 228 | 45 | 13 |
| 14 | 52 | 30 | 127 | 30 | 2594 | 125 | 1 | 43 | 32-27 | 1-4369 | 232 | 30 | 14 |
| 15 | 56 | 15 | 123 | 45 | 2719 | 113 | 1 | 48 | 31-02 | 1-3305 | 236 | 15 | 15 |
| 16 | 60 | 0 | 120 | 0 | 2832 | 101 | 1 | 53 | 2-24 | 1-2028 | 240 | 0 | 16 |
| 17 | 63 | 45 | 116 | 15 | 2933 | 88 | 1 | 57 | 4-12 | 1-0750 | 243 | 45 | 17 |
| 18 | 67 | 30 | 112 | 30 | 3021 | 75 | 2 | 0 | 34-87 | 0-9367 | 247 | 30 | 18 |
| 19 | 71 | 15 | 108 | 45 | 3096 | 63 | 2 | 3 | 34-49 | 0-7982 | 251 | 15 | 19 |
| 20 | 75 | 0 | 105 | 0 | 3159 | 48 | 2 | 6 | 5-36 | 0-6700 | 255 | 0 | 20 |
| 21 | 78 | 45 | 101 | 15 | 3207 | 35 | 2 | 8 | 1-09 | 0-5184 | 258 | 45 | 21 |
| 22 | 82 | 30 | 97 | 30 | 3242 | 21 | 2 | 9 | 24-14 | 0-3651 | 262 | 30 | 22 |
| 23 | 86 | 15 | 93 | 45 | 3263 | 7 | 2 | 10 | 14-43 | 0-2235 | 266 | 15 | 23 |
| 24 | 90 | 0 | 90 | 0 | 3270 | | 2 | 10 | 31-19 | 0-0745 | 270 | 0 | 24 |

THE BRAHMA-SIDDHANTA OF BRAHMAGUPTA, A.D. 628.

WORKING TABLES FOR COMPUTATION OF ANCIENT DATES BY THE MEAN MOTIONS OF SUN AND MOON.

321. The Tables published in my last article enabled the dates of ancient Indian inscriptions and records to be verified according to the requirements of the *Brahma-Siddhanta* with, as basis of calculation, the "true" or apparent motions of sun and moon. This mode of reckoning appears to have been introduced in the 11th century A.D. But the *Brahma-Siddhanta* was composed in A.D. 628 and for at least four centuries after its appearance details for the calendar were almost certainly based on mean planetary motions; while it is believed that this mean system continued to guide the preparation of *pañchāṅgs* (almanacs) till a much later date—perhaps for several centuries in some parts of the country.

For the correct verification, therefore, of early dates it is necessary for historians to be provided with a set of Tables based on mean planetary motions and the postulates of the *Brahma-Siddhanta* in addition to those based on mean motions and the postulates of the *Ārya-Siddhanta*. The latter were provided in a previous article in this volume. The former are presented herewith. They cover a period of 800 years, from K.Y. 3700 to 4500, or from A.D. 599 to 1400.

The system of work is the same as in all my previous Tables, that is to say, it is the system of Largeteau as adopted by Professor H. Jacobi in the *Indian Antiquary*, Vol. VIII, and in the *Epigraphia Indica*, Vol. XI. Full examples shewing the method of work, which is very simple, are given in my former articles; others, specially concerning the system of mean reckoning on *Brahma-Siddhanta* principles, are given below.

In case of doubt as to which of the Tables already published should be used in the present case attention is directed to the accompanying § 330.

322. In examining the dates of records in earlier years it is necessary to remember that the modes of reckoning adopted were not always the same as those used in more recent years. As to eras, reference to articles 6-12 of my former work, *Indian Chronography*, is recommended. For other matters the late Dr. J. F. Fleet's remarks in the *Journal of the Royal Asiatic Society* for 1912, pp. 704-5, will be found very valuable.

Especially let it be borne in mind that the lunar month reckoning in early years was probably carried out on the *pūrṇimānta* system. According to the late Professor Kielhorn the earliest known date certainly in *amānta* reckoning belonged to the year A.D. 794. It is contained in the Paithān plates of the Rāshtrakūṭa king Govinda III (*Epig. Ind.*, III, 105; *Ind. Ant.*, XVII, p. 142, No. 9). As regards these two systems, the *amānta* and *pūrṇimānta* names of lunar months, see *Indian Calendar*, §§ 13, 45 (with Table on p. 26), 47, 51, and the late Sankara Balkrishna Dikshit's footnote on p. 31; also *Indian Chronography*, §§ 75, 76, p. 31.

Elements of the Brahma-Siddhanta mean reckoning.

323. The principal elements are fully stated in my former article on this authority (*above*, p. 448, § 313). For calculation on the mean system the following notes are necessary.

(i) The length of the mean sidereal solar year is $365^d 6^h 12^m 9^s$, a fixture afterwards adopted by Bhāskarāchārya in his *Siddhanta-Siromaṇi*, A.D. 1150.

(ii) The advance of "a" (distance of mean moon from mean sun)—which finally fixes the index of the *tithi* ($\frac{1}{30}$ th of a mean lunation) in measurement by 10,000ths of circle—in every civil day of 24 hours and in hours, minutes and seconds, is given for the *Siddhanta-Śirōmaṇi* in Tables LIV-A and B above, pp. 148, 152. These Tables are applicable to the *Brahma-Siddhānta*.

(iii) For the sun's mean motion per day, hour, minute, etc., see Tables XLIII and XLIV above pp. 59, 60.

(iv) The advance of *a* in one mean solar month is, in 10,000ths of circle, 307·349156595.

(v) Each solar month consists of $30^d 10^h 31^m 0^s 75$. Table XCI below shows the interval of days, hours, etc., between the moment of mean *Māsha-samkrānti*, when the mean sun is at celestial long. 0° (Table XC, cols. 13-17), and the moment of each subsequent *samkrānti* when the mean sun enters each of the twelve signs; and so enables the day and time when each mean solar month begins to be ascertained. The same Table gives the advance of "a" from its value at the moment of mean *Māsha-samkrānti* to the same at each subsequent *samkrānti*.

(vi) The interval between the moments of true and mean *Māsha-samkrānti*, i.e. between the moments of the astronomical beginning respectively of the true and mean solar year, which interval we call the *śodhya*, varies slightly year by year in consequence of the postulated shift of the sun's apsis (§ 313, VII, above p. 449). The exact intervals, century by century from K.Y. 3700 to 4300, were given above in § 315. The Table is here repeated and extended so as to embrace the whole period of the general Table XC below. The quantities were computed by Dr. Robert Schram.

TABLE .

VALUE OF *śodhya* BY THE *Brahma-Siddhānta*.

| Kaliyuga. | A.D. | ŚODHYA AT BEGINNING OF CENTURIES. | | | | Days and decimals. |
|-----------|-----------|-----------------------------------|----|----|---------|--------------------|
| | | D. | H. | M. | S. | |
| 3700 | 599-600 | 2 | 4 | 8 | 59·8128 | 2·1729145 |
| 3800 | 699-700 | 2 | 4 | 9 | 2·0160 | 2·1729400 |
| 3900 | 799-800 | 2 | 4 | 9 | 4·2192 | 2·1729655 |
| 4000 | 899-900 | 2 | 4 | 9 | 6·4224 | 2·1729910 |
| 4100 | 999-1000 | 2 | 4 | 9 | 8·6256 | 2·1730165 |
| 4200 | 1099-1100 | 2 | 4 | 9 | 10·8288 | 2·1730420 |
| 4300 | 1199-1200 | 2 | 4 | 9 | 13·0320 | 2·1730675 |
| 4400 | 1299-1300 | 2 | 4 | 9 | 15·2352 | 2·1730930 |
| 4500 | 1399-1400 | 2 | 4 | 9 | 17·4384 | 2·1731185 |

The moment of mean Mēsha-samkrānti, or the beginning of the mean solar year.

324. The general Table which follows states (Table XC, cols. 13-17) the moment of beginning of each mean solar year according to the *Brahma-Siddhānta*. The first entry is for the expired year 3700 of the Kaliyuga (A.D. 599-600), in which year the astronomical beginning is fixed as at 5^h 15^m after mean sunrise on Saturday, 21 March, A.D. 599. It is incumbent on me to prove the correctness of this fixture. Subsequent entries are based on it by the addition to it year by year of 365^d 6^h 12^m 9^s. Proof may be offered in three ways:—(A) by comparison with the date and time already found for the beginning of the true solar year K.Y. 3700, utilizing Dr. Schram's determination of the interval between the two occurrences; (B) by comparison with the date and time fixed for the beginning of the same mean solar year according to the *First Ārya-Siddhānta*, allowing for the time-difference between the two authorities caused by their different estimate as to the length of the mean solar year, viz. 21^s; (C) by direct computation from the moment of mean Mēsha-samkrānti, at the beginning of the Kaliyuga era, 3,700 years earlier, which, according to the *Brahma-Siddhānta* (§ 313, v, above, p. 449), was exactly at mean sunrise, or 0^h 0^m 0^s Lakṣā time, on Friday, 18 Febr. (B.C. 3102).

A

| | | <i>h.</i> | <i>m.</i> | <i>s.</i> |
|---|--------------------|-----------|-----------|-----------|
| Moment of true Mēsha-samkrānti in K. | | | | |
| Y. 3700 (A.D. 599) (Table LXXXII, above.) | (5) Thur., 19 Mar. | 1 | 6 | 0.1872 |
| Śōdhyā as above (§ 323, Table) . | + (2) 2 | 4 | 8 | 59.8128 |
| Moment of mean Mēsha-samkrānti . | (0) Sat., 21 Mar. | 5 | 15 | 0 |

B

[See *Indian Calendar*, Table I, cols. 13-17, for A.D. 599-600.]

| | | <i>h.</i> | <i>m.</i> | <i>s.</i> |
|---|--------------------|-----------|-----------|-----------|
| True Mēsha-samkrānti by <i>Ārya-Siddhānta</i> | (5) Thur., 19 Mar. | 23 | 17 | 30 |
| <i>Ārya-Siddhānta</i> śōdhyā | + (2) 2 | 3 | 32 | 30 |
| Mean Mēsha-samkrānti by <i>Ārya-Siddhānta</i> | (1) Sun., 22 Mar. | 2 | 50 | 0 |
| Less Time-difference in 3,700 years ¹ . | | —21 | 35 | 0 |
| Mean Mēsha-samkrānti by <i>Brahma-Siddhānta</i> | (0) Sat., 21 Mar. | 5 | 15 | 0 |

C

The epoch of the Kaliyuga was, as stated above 0^h 0^m 0^s Lakṣā time, or exactly at mean sunrise on Friday 18 Feb. B.C. 3102. The length of the mean solar year being 365^d 6^h 12^m 9^s, the beginning of the next mean solar year took place 6^h 12^m 9^s after mean sunrise; and after the expiration of a century from the epoch the mean solar year began at 20^h 15^m 0^s after mean sunrise; so that after 37 centuries had passed the mean solar year K.Y. 3700 began at 5^h 15^m 0^s after mean sunrise.

When this latter calculation is carried out century by century, the figures show that centuries 6, 12, 19, 25 and 32, five in all, were defective centuries consisting each of 36,525 days, the remainder being common centuries of 36,526 days. Since 36,526 divided by 7 leaves 20

¹ See Table, § 273, in Article on the *Siddhānta-Śirōmaṇi* (above, p. 133), which is equally applicable to the *Brahma-Siddhānta*; or refer to *Indian Chronography*, p. 61. The time-difference in 3,000 years is 17^s 30^s, in 60 years 4^s 5^s, total 21^s 35^s.

remainder and 36,525 divided by 7 leaves remainder 6, the results shew that whereas century 0 began on a Friday, century 37 began on a Saturday.

Table XC therefore, as regards the moment of mean *Mēsha-samkrānti* in K.Y. 3700 expired, A.D. 599-600, is proved to be correct.

The beginning of the mean luni-solar year. Amānta system.

325. In § 317 of my article on the *Brahma-Siddhānta* as calculated by the true motions of the sun and moon (*above*, p. 451) it will be seen that the value of "a" at mean sunrise of Sunday, 22 March, A.D. 599 (K.Y. 3700) was proved to be, in measurement by 10,000ths of a circle, 6567·108945284. The mean solar century, however, began on the previous day, Saturday, 21 March. Deducting one day's value of a, viz. 338·631985412, from the above, we find that at mean sunrise of that Saturday the value of a, or the mean moon's distance from mean sun, was 6228·476959872. This was its value at the beginning of the 37th century K.Y. Hence the first entry in Table XCII below which gives the values at mean sunrise on the day on which each century began. The remaining figures in that Table were obtained by the addition to this value of the increase of "a" in a century. [See § 316 of the my article on the *Brahma-Siddhānta* "true" System, *above*, p. 450. The increase of a in a century of 36,525 days is 997·678896964, and in a common century of 36,526 days is 0·416684507.] Centuries 38 and 44 were defective centuries; the rest were common ones. For the beginnings of the odd years of centuries Table LXXXVII *above*, p. 509 was used, the value of "a" there given being added to that for the century.

Thus was determined the value of "a" at mean sunrise of the day on which each mean solar year begins (*see Example 1 below*). From this is found the value of "a" at mean sunrise of the day on which the mean luni-solar year begins.

326. The first day of the luni-solar year is, according to the general rule, the civil day on which expired the first *tithi* of the bright half (*śukla*) of the *amānta* lunar month Chaitra, i.e. the *tithi* which begins at the moment of the first new moon after the *Mina-samkrānti*, or at the moment of the new moon when that *amānta* lunar month begins within the limits of which the *Mēsha-samkrānti* occurs. Having already established the value of "a" on the day in any year on which mean *Mēsha-samkrānti* occurred, we have to subtract from that value the increase of "a" in whole days between the two dates, the day on which the luni-solar year began being the earlier. The first 30 days' entries in Table LIVA (*above*, p. 148) enable this to be done. We select in that Table the "a" in col. 3 the value of which is next lower than the "a" of mean *Mēsha-samkrānti*, and the Table then shews in col. 1 the number of intervening days, and therefrom the European day and month, and, by subtraction, also (col. 2), the week-day. Deducting the selected "a" from the "a" of mean *Mēsha-samkrānti*, we have the "a" of mean sunrise of the day, Chaitra *śukla* 1, on which the luni-solar year begins.

Thus,—mean *Mēsha-samkrānti* of the year K.Y. 3700, A.D. 599-600, was shewn *above* to have occurred on (0) Saturday, 21 March A.D. 599, at mean sunrise on which day the mean moon's *tithi*-index a was 6228·4770. In Table LIVA, amongst the values of "a" in the first 30 days, it is seen that the next lower value is 6095·3757. $6228·4770 - 6095·3757 = 133·1013$. Col. 1 shews that the interval of days was 18, and col. 2 shews the week-day 4. Mean *Mēsha-samkrānti* occurred on (0) Saturday. $0 \text{ (or } 7) - 4 = 3$ Tuesday. It is therefore found that the day Chaitra *śukla* 1, the first civil day of the mean luni-solar year, was (3) Tuesday, 3 March A.D. 599, and that the value of "a" at mean sunrise on that day was 133·1013, shewing the currency of the *tithi śukla* 1. This is the entry in Table XC below.

It comes to the same thing if the "a" of Table XCIII below is added to the "a" of mean *Mēsha-samkrānti*, the Table being prepared for that purpose. The "a" of mean *Mēsha-*

¹ All values of a below 333·3 prove the *tithi* to have been the first of the *amānta* lunar month, or the first *tithi* of the first (*śukla*) fortnight.

saṁkrānti was 6228·4770. We select such a value of "a" in col. 3 of that Table as, added to the former, makes a value between 0 and 333·3, the limits of the *tithi śukla* 1; and note the interval of days, and the week-day resulting by addition of the given week-day (col. 2) to the week-day of mean *Māsha-saṁkrānti*. Here the selected value of "a" is 3904·6243, since $6228·4770 + 3904·6243 = 133·1013$. The interval of days is 18 (col. 1). The week-day corresponding to the day *Chaitra śukla* 1 is $(0 + 3 =) 3$. The result is the same as obtained by the former process.

All the entries in the general Table XC, cols. 19-23, can be proved in this way.

To find the exact phase of the mean moon, i.e. the mean *tithi*-index "a", on any day of any year, or at any particular moment of any day, it is only necessary to add to the value of "a" given in col. 23 of Table XC for the first day of the luni-solar year the amount of increase of "a" during the intervening whole days, hours, etc., given in Tables LIVA and B above, pp. 148, 152.

The pūrṇimānta system of lunar months.

327. The *amānta* lunar month begins at the moment of new moon, the *pūrṇimānta* month at the moment of full moon a fortnight earlier; so that the fortnight (*śukla*) between new moon and full moon bears the same month-name by both systems, while the fortnight (*kṛishṇa*) between full moon and new moon bears, in the *pūrṇimānta* system, the name of the lunar month next after that which it bears in the *amānta* system. The *śukla* fortnight of the first lunar month, for instance, belongs to *Chaitra* by both systems. The following *kṛishṇa* fortnight, however, belongs to *Chaitra* by the *amānta* system, but to *Vaiśākha* by the *pūrṇimānta* system.

This should always be borne in mind when examining dates of inscriptions, especially in earlier years. For references to already published explanations see § 322 above, and for a Table of corresponding fortnights and lunar months see *Indian Calendar*, Table II, Part I.

The mean moon's nakṣatra.

328. The note on this subject already given (§ 308, p. 362) in dealing with calculation by the *First Ārya-Siddhānta* mean system applies equally to the *Brahma-Siddhānta* mean system. It is unnecessary to repeat it.

Tables LXXX and LXXXI, (pp. 444, 446), fixing the sun's mean longitude for every day of the mean solar year according to the *First Ārya-Siddhānta*, may safely be used for general calculation by the *Brahma-Siddhānta*, since the difference between the two authorities in their estimates of the length of the year only amounts to 21 seconds.¹ But in any exceptionally close case the exact value, at mean sunrise of any day in the year of "s", or the sun's mean longitude, can be found by multiplying the sun's mean motion in one day (Table XLIII, p. 59), by the number of days' interval between the day on which mean *Māsha-saṁkrānti* occurred and the given day. The sun's mean motion in one day by the *Brahma-Siddhānta* is $59^{\circ} 8' 172655$, or in 10,000ths of circle 27·377875426.

The Rule for work is as follows. (i) Find, as above, value of "a" at mean sunrise of given day. (ii) Note number of whole days intervening between the day of mean *Māsha-saṁkrānti* (Table XC below, col. 13, figure in brackets) and the given day. Turn to Table LXXX and note the increase of sun's mean long., "s", during that interval. Deduct from this, by Table LXXXI, the increase of long. during the hours and minutes stated in col. 17 of Table XC. The result is the sun's mean long., "s", at mean sunrise of given day. (iii) Add s to σ. This = "n", the required index of the mean *nakṣatra*, or the mean moon's place in the heavens at that moment. Table LXVIII above, p. 350 or Table VIII, *Indian Calendar*, will shew in which *nakṣatra* the mean moon stood at the time.

¹In measurement by 10,000ths of circle the total difference in 365 days is 0·00065, by which amount the *Brahma-Siddhānta* is the greater.

The 19-year intercalation cycle.

329. [See *Indian Calendar*, § 50, p. 29, and notes in previous articles above on the working of the cycle by different systems.] The sequence in the present case works perfectly regularly except in four instances. In every case except these, after four successive intercalations of the same lunar month at intervals of 19 years each, the intercalated month gives way to the month next preceding it. The exceptions are—a run of five mean intercalary Bhādrapadas between A.D. 746 and 822, five Āśvins between 952 and 1009, five Kārtikas between 1120 and 1196, and five Pausas between 1231 and 1307.

Working Tables.

330. For general guidance the following Tables, as given for work by the *Ārya-Siddhānta* (above), should be used, or the similar Tables published in the *Indian Calendar*.

Table LXII, or *Ind. Cal.*, Table II, Parts I and II, for names of months and *nakshatras*.

Table LXIII A, or *Ind. Cal.*, Table III, Part I, for collective duration of mean lunar months.

Table LXVIII, or *Ind. Cal.*, Table VIII, for indices of *tithis*, *karapas*, *nakshatras* and *yogas*.

Table LXIX, or *Ind. Cal.*, Table IX, for the serial number of days of the year and their names and numbers in European reckoning.

Table LXX, or *Ind. Cal.*, Table X, for conversion of the indices of *tithis*, *nakshatras* and *yogas* into time.

Table LXXI, the European Calendar for 23 centuries. [Table XIII, *Indian Calendar*, may also be used, but the former is easier.]

Table XCI below gives the collective duration of mean solar months, measured from the moment of mean Mēsha-saṁkrānti, the astronomical beginning of the mean solar year; also the increase of "a", the mean *tithi*-index, during the interval.

Table XCII shows the value of "a" at the beginning of each mean solar century of the Kaliyuga, that is to say, its value at mean sunrise of the day on which each such solar century began.

For odd years of such centuries Table LXXXVII (above, p. 509) is to be used in conjunction with Table XCII, addition of the two given values of "a" yielding the value of "a" at mean sunrise of the day on which each mean year of the Kaliyuga solar century began.

For increase of "a" in subsequent days, hours, etc., in any K.Y. year, or any moment of any day Tables LIVA and B (above) are to be used.

The use of Table XCIII is explained in § 326 above.

Table XCIV-A to F enables the units and decimals of units of results obtained from our system of reckoning in measurement by 10,000ths of a circle, to be converted readily into time, if required. The same can be converted into space-measurement in degrees, etc., by Table XLV-B above.

EXAMPLES.

[N.B.—Work may always be done in whole numbers, resorting to decimals only in close cases.]

Example I. To find the mean *tithi*-index, or phase of moon, at mean sunrise of the day on which mean Mēsha-saṁkrānti occurred in any year.

This is a necessary operation for finding the *tithi*-index "a" at the moment of mean Mēsha-saṁkrānti, which is obtained by addition of the "a" of subsequent hours, minutes, etc., to the a

of mean sunrise. [The intercalation of lunar months is decided by the value of "a" at the moment of mean Mēsha-saṁkrānti.] Two cases are considered, A and B.

A. Take the year Kaliyuga 3851 expired. This was Śaka expired 672. It began (*Table XC, cols. 13-17*) astronomically at 5^h 49^m 30^s after mean sunrise on Sunday, 22 March A.D. 750. We want to know the mean moon's phase, as shewn by the *tithi*-index "a", at mean sunrise of that day. ["w.-d." = week-day.]

| | w.-d. | a. |
|--|-------|-----------|
| (<i>Table XCII</i> .) At beginning of K.Y. Century 38, mean sunrise | (0) | 5109-3761 |
| (<i>Table LXXXVII</i> .) At beginning of K.Y. year 51, mean sunrise | (1) | 8036-6243 |

At mean sunrise on the Sunday in question "a" = . . . (1) 3137-0004

The moon was then (*Table VIII or LXVIII*, p. 356 above, *col. 3*) about 10 days old.

B. The year K.Y. 3849, Śaka 670 both expired. This began (*Table XC*) at 17^h 25^m 21^s after mean sunrise on Thursday, 21 March A.D. 748. The first result shews the "a" for mean sunrise on Friday, 22 March, and the "a" for one day has to be deducted. This is due to the fact that *Table LXXXVII* has to serve for all K.Y. centuries, common or defective. The correction required is never more than that for one day.

| | | |
|--|-----|-----------|
| (<i>Table XCII</i> .) At beginning of K.Y. Century 38, mean sunrise | (0) | 5109-3761 |
| (<i>Table LXXXVII</i> .) Add for odd K.Y. year 49, mean sunrise | (6) | 835-2749 |

| | | |
|--|------|-----------|
| At mean sunrise on Friday, 22 Mar. | (6) | 5935-6510 |
| Deduct one day's value of "a" (<i>Table LIV-A</i>) | -(1) | -338-6320 |

At mean sunrise on Thursday, 21 Mar. (5) 5597-0190

Example 2. To find the civil day corresponding to Chaitra śukla 1, or the first civil day of the luni-solar year; and the value of "a" (phase of mean moon) at mean sunrise thereon.

The civil day corresponding to mean Chaitra śukla 1 is that on which the mean *tithi* "śukla 1" expired. The *tithi*-index (*a* =) 333 $\frac{3}{4}$ marks the last instant of the first śukla *tithi*, so that we have to find a day on which at mean sunrise the *tithi*-index "a" was between 0 and 333 $\frac{3}{4}$. The *amānta* lunar month called "Chaitra" begins with the first new moon after the Mīna-saṁkrānti, and the civil day called "Chaitra śukla 1" is necessarily earlier than the day on which mean Mēsha-saṁkrānti occurred. We have to find the number of days' interval between these two days. There are two ways of ascertaining these points, one by using *Table XCIII* (p. 591 below) and adding its figures, one by using *Table LIV-A* (p. 148 above) and subtracting its figures.

(i) Take the year in Example 1, A, above. The value of "a" at mean sunrise of Sunday, 22 March A.D. 750, was found to be 3137-0004. We turn to *Table XCIII* and select in *col. 3* such a value of "a" as, added to 3137-0004, will result in a total value of "a" between 0 and 333 $\frac{3}{4}$. This is found to be 6952-3121, the sum of the two (always disregarding quantities over 10,000) being 89-3125. The interval of whole days from mean Mēsha-saṁkrānti day was 9 (*col. 1*). Adding the number of the week-day (*col. 2*), viz. 5, to the week-day of mean Mēsha-saṁkrānti, viz. 1 Sunday, we have the week-day 6 Friday. Mean Mēsha-saṁkrānti occurred on Sunday, 22 March; and, therefore, it has been determined that the day Chaitra śukla 1, the first day of the luni-solar year, was Friday, 13 March A.D. 750, on which day, "a" being 89-3125, Chaitra śukla 1 was the current *tithi* at mean sunrise.

Similarly in Example 1, B. At mean sunrise of (5) Thursday, 21 March A.D. 748, "a" was 5597-0190. Add (*Table XCIII col. 3*) 4591-8882. Result 178-9072. The interval of days was

(*col. 1*) 16. The week-day number was 3. The week-day of 21 March was 5 (Thursday). Hence the week-day 16 days earlier was $5+3=8$ Tuesday. So the beginning of the mean luni-solar year was on Tuesday, 5 March A.D. 748, on which date at mean sunrise the mean *tithi* *śukla 1* was current, the value of "a" at that moment being 178-9072.

The entries in Table XC against these years correspond to these results.

(ii) The same results are obtained by using Table LIVA *above*, and deducting the figures for the interval of whole days between the two occurrences. We note that value of "a" in the first 30 days of that Table which is next lower than the value of "a" already found for the day of mean *Mēsha-saṅkrānti*, and deduct the former from the latter. The number of intervening days (*col. 1*) and the number of week-days (*col. 2*) stand against the selected entry. This week-day number is deducted, of course, from the week-day of mean *Mēsha-saṅkrānti*. Thus—

| | | |
|---|------|------------|
| A. For K.Y. 3851, A.D. 750. | w.d. | a. |
| (<i>Example 1, A.</i>) For mean sunrise on Sunday, 22 March A.D. 750. | (1) | 3137-0004 |
| (<i>Table LIVA.</i>) Next lower value of "a," and week-day | —(2) | —3047-6879 |
| At mean sunrise of the day Chaitra <i>śukla 1</i> | (6) | 89-3125 |

The interval of days (*col. 1*) was nine. 6=Friday. Hence the day corresponding to Chaitra *śukla 1* was Friday, 13 March, and at mean sunrise the mean *tithi* Chaitra *śukla 1* was current, the value of "a" being 89-3125.

| | | |
|--|------|------------|
| B. For K.Y. 3849, A.D. 748. | | |
| (<i>Example 1, B.</i>) At mean sunrise on Thursday, 21 March A.D. 748. | (5) | 5597-0190 |
| (<i>Table LIVA.</i>) Next lower value of a, and week-day | —(2) | —5418-1118 |
| At mean sunrise of the day Chaitra <i>śukla 1</i> | (3) | 178-9072 |

The interval of days was 16. 3=Tuesday. Hence the day corresponding to Chaitra *śukla 1* was Tuesday, 5 March A.D. 748, and at mean sunrise the value of a was 178-9072.

These results are the same as those found by the former process. The examples enable any worker to prove the correctness of all my entries in cols. 19-23 of the general Table XC below.

Example 3. To find if a lunar month was or was not intercalated in the given year.

It will be enough, for this problem, to refer to Example 3 of my article (*above*) on the *Ārya-Siddhānta—mean system*. The work here is precisely similar; but for the values of "a" for hours and minutes Table LIVB should be used, and Table XCI for the advance of "a" during the mean solar months, etc.

Example 4. To find the mean tithi-index "a", showing phase of moon, at mean sunrise of any day in the year; or at any moment of any day.

Table XC (cols. 19-23) gives the civil day corresponding to mean Chaitra *śukla 1* (the initial day of the mean luni-solar year), its serial number (in brackets) from January 1st of the equivalent A.D. year, and the mean *tithi*-index a at mean sunrise. Calculate by Table III, *Indian Calendar*, or by Table LXIII A (*above*), the interval of whole days from that day to the given day, and, if necessary, the excess of hours, minutes, etc., to the given moment on that day. Add the increment of "a" for the interval of whole days from Table LIV-A and for fractions of days from Table LIV-B to the "a", as above, of the initial day; as also the number of days' interval and the corresponding week-day

E.g. Required the *tithi*-index at mean sunrise of the day called "Āshāḍha *śukla* 4" in Saka 547 expired, or A.D. 625-26, and the corresponding A.D. day and week-day.

In this year there was no intercalated month. The interval from the day "Chaitra *śukla* 1" day to the day "Āshāḍha *śukla* 4" is approximately (Table LXIII-A above, p. 335) 93 days. We try this—

| | <i>d.</i> | <i>w.-d.</i> | <i>a.</i> |
|---|-----------|--------------|------------|
| * Table XC. Chaitra <i>śukla</i> 1, mean sunrise | (74) | (6) | 184·6506 |
| Table LIVA for 93 days | + (93) | (2) | 1492·7746 |
| | (167) | (1) | 1677·4252 |
| This value of "a" (Table LXVIII) shews that the 6th <i>śukla tithi</i> was current at mean sunrise. ∴ Deduct for 2 days | — (2) | — (2) | — 677·2640 |

At mean sunrise on Āshāḍha *śukla* 4 (165) (6) 1000·1612

Table LXVIII or VIII *Indian Calendar*, shews the currency of the 4th *śukla tithi*, at that mean sunrise, since its first point is when $a=1,000$. Day 165 was (Table IX, *Indian Calendar*, or LXIX, above) 14th June A.D. 625. 6=Friday. We learn, however, that the 4th mean *tithi* had begun only about $\frac{1}{4}$ of a minute before the moment of mean sunrise; so that if the basis of calculation had been the moment of true sunrise (a little earlier than mean sunrise) the corresponding day might have been Thursday, 13 June.

Example 5. To find the *nakshatra*, or place in the heavens of the mean moon, at mean sunrise of any day or of any later moment in the day.

Take the case in the last example. It is required to find the value of "n", the *nakshatra*-index, at mean sunrise of the day called, in the mean system, "Āshāḍha *śukla* 4" in the given year, A.D. 625.

The mean *tithi*-index, "a", at that mean sunrise was found to be 1000·1612. Since $s+a=n$ (§ 327 above), we have to ascertain the value of "s", the sun's mean longitude at that moment.

The day, 14 June, was the 165th day after Jan. 1 in that year. Mean Mṛ̥ṣha-*samkrānti* had taken place on (Table XC, cols. 13-17) the 79th day at 22^h 30^m 54^s after mean sunrise. The day 14 June was (165-79) 86 days later. We proceed as follows:—

| | <i>s.</i> |
|---|-----------|
| Table LXXX, p. 444. Interval of 86 days | 2354·4957 |
| Less (Table LXXXI) for 22 ^h | 25·0964 |
| 30 ^m | 0·5704 |
| 54 ^s | 0·0171 |
| | 25·6839 |
| | — 25·6839 |

At mean sunrise on the day Āshāḍha *śukla* 4 sun's mean long., "s" = 2328·8118
Add "a" as already found for that moment 1000·1612

At mean sunrise on that day "n" = 3328·9730

This last is the required *nakshatra*-index. Reference to Table VIII, *Indian Calendar*, or Table LXVIII above shews that the moon was then in the *nakshatra* Aśl̥ṣhā by the

equal space system of division of the ecliptic, which ended when " n " = 3333·3; but that by the system of Garga or the *Brahma-Siddhānta* (our present authority) she was in Maghā, of which the ending points are respectively 3518·5 and 3477·1. Converted into degrees (Table VIII-B, *Indian Calendar*, or Table XLV-B, *above*) the moon at that mean sunrise stood at about 119°51'.

For the value of " n " at any later hour of the given day the index-value for the time since mean sunrise must be added (Table LXXXI) to the " n " of mean sunrise. At about 3 hours 50 min. after mean sunrise, for instance, the mean moon entered Maghā by the equal-space system; for the beginning point of that *nakshatra* is 3333·3. The increase of " n " in 3 hours 50 min. is 4·3728, and $3328\cdot9730 + 4\cdot3728 = 3333\cdot3458$.

Example 6. To find the *yōga*, " y ", at the same moment as in *Example 5*.

The formula for finding the *yōga*-index is either $s+n="y"$, the *yōga*-index; or, in cases where it is not necessary to calculate n (the *nakshatra*), $2"s"+a="y"$. Here, at mean sunrise on 14 June A.D. 625, we have found " s " = 2328·8118 and " n " = 3328·9730. The *yōga*-index, " y ", therefore, = 5657·7848; and reference to Table VIII, *Indian Calendar*, cols. 12-13, or Table LXVIII (*above*, cols. 6, 8, 9, 10), shews that the mean moon was at that moment in the *yōga* Siddhi. Again $2s=4657\cdot6236$, and this $+a$, which was found to be $1000\cdot1612=5657\cdot7848$, the same as before.

TABLE XC.

REMARKS.

K.Y. 3736 expired, A.D. 635-36. A very close case in the matter of intercalation of lunar month. Mean new moon occurred about 2^m after the moment of the Karka-*saṃkrānti* (mean sun at long. 90°), and, therefore, at that moment the mean moon was waning, while she was waxing at the next, Siṃha-*saṃkrānti* (mean sun at 120°). Accordingly the intercalated month was Śrāvapa.

K.Y. 3923 expired, A.D. 822-23. According to the 19-year sequence of intercalations the same month is generally intercalated four times running, i.e. at intervals of 19 years each. Here, however, is an instance of a fifth intercalation of the same month. [See § 329 of text above.]

K.Y. 4110 expired, A.D. 1009-10. A similar case. Āśvina intercalate^d for the fifth time.

K.Y. 4297 expired, A.D. 1196-97. Another. Kārttika intercalated for the fifth time.

K.Y. 4408 expired, A.D. 1307-08. Another. Pausha intercalated for the fifth time. This was a very close case. The moment of mean new moon was about 1 minute after the mean sun reached the Dhanus-*saṃkrānti* (mean sun at long. 240°), but she was actually waning at the moment of the *saṃkrānti* and was waxing at the next, Makara, *saṃkrānti*. Consequently the lunar month Pausha was intercalated.

TABLE

MEAN SYSTEM TABLE.

Numbers of columns conform

(Cols. 1 to 4.)—The years herein stated are the *current* years corresponding(Cols. 6 and 7.)—*Samvatsara*-names of mean solar years in *italics* show cases

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|---------------------|----------------------------------|---------|---------|-------------------------|---------------------|---|
| Kali. | Saka. | Chait-sadi Vikrama. | Māchadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3701 | 522 | 657 | 6 | | 599-600 | 50 Anala . . . | | ... |
| 3702 | 523 | 658 | 7 | | *600-01 | 51 Piṅgala . . . | | 2 Vaiśākha . |
| 3703 | 524 | 659 | 8 | | 601-02 | 52 Kālayukta . . . | | ... |
| 3704 | 525 | 660 | 9 | | 602-03 | 53 Siddhārthini . . . | | 10 Pausa . |
| 3705 | 526 | 661 | 10 | | 603-04 | 54 Raudra . . . | | ... |
| 3706 | 527 | 662 | 11 | | *604-05 | 55 Darmati . . . | | ... |
| 3707 | 528 | 663 | 12 | | 605-06 | 56 Dandabhi . . . | | 7 Āsvina . |
| 3708 | 529 | 664 | 13 | | 606-07 | 57 Rudhīrādgārini . . . | | ... |
| 3709 | 530 | 665 | 14 | | 607-08 | 58 Raktāksha . . . | | ... |
| 3710 | 531 | 666 | 15 | | *608-09 | 59 Krōṣhana . . . | | 3 Jyēṣṭha . |
| 3711 | 532 | 667 | 16 | | 609-10 | 60 Kshaya . . . | | ... |
| 3712 | 533 | 668 | 17 | | 610-11 | 1 Prabhava . . . | | 12 Phālguna . |
| 3713 | 534 | 669 | 18 | | 611-12 | 2 Vibhava . . . | | ... |
| 3714 | 535 | 670 | 19 | | *612-13 | 3 Śukla . . . | | ... |
| 3715 | 536 | 671 | 20 | | 613-14 | 4 Pramāda . . . | | 8 Kārttika . |
| 3716 | 537 | 672 | 21 | | 614-15 | 5 Prajāpati . . . | | ... |
| 3717 | 538 | 673 | 22 | | 615-16 | 6 Aṅgiras . . . | | ... |
| 3718 | 539 | 674 | 23 | | *616-17 | 7 Sramakha . . . | | 5 Śrāvapa . |
| 3719 | 540 | 675 | 24 | | 617-18 | 8 Bhāva . . . | | ... |
| 3720 | 541 | 676 | 25 | | 618-19 | 9 Yavan . . . | | ... |

XC.

BRAHMA-SIDDHANTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

where differences exist from *Sūrya-Siddhānta* nomenclature in true solar years.

| COMMENCEMENT OF THE | | | | | | |
|------------------------|-------------|--------------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha- sankrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . . | 0 Sat. . . | 5 15 0 | 3 Mar. (62) . . . | 3 Tues. . . | 133-1013 | 3701 |
| 20 Mar. (80) . . . | 1 Sun. . . | 11 27 9 | 20 Feb. (51) . . . | 0 Sat. . . | 8-3241 | 3702 |
| 20 Mar. (79) . . . | 2 Mon. . . | 17 39 18 | 10 Mar. (69) . . . | 6 Fri. . . | 43-5065 | 3703 |
| 20 Mar. (79) . . . | 3 Tues. . . | 23 51 27 | 28 Feb. (59) . . . | 4 Wed. . . | 257-8614 | 3704 |
| 21 Mar. (80) . . . | 5 Thur. . . | 6 3 36 | 19 Mar. (78) . . . | 3 Tues. . . | 202-5437 | 3705 |
| 20 Mar. (80) . . . | 6 Fri. . . | 12 15 45 | 7 Mar. (67) . . . | 0 Sat. . . | 168-2666 | 3706 |
| 20 Mar. (79) . . . | 0 Sat. . . | 18 27 54 | 24 Feb. (55) . . . | 4 Wed. . . | 45-3394 | 3707 |
| 21 Mar. (80) . . . | 2 Mon. . . | 0 40 3 | 15 Mar. (74) . . . | 3 Tues. . . | 78-0718 | 3708 |
| 21 Mar. (80) . . . | 3 Tues. . . | 6 52 12 | 5 Mar. (64) . . . | 1 Sun. . . | 293-0266 | 3709 |
| 20 Mar. (80) . . . | 4 Wed. . . | 13 4 21 | 22 Feb. (53) . . . | 5 Thur. . . | 168-7494 | 3710 |
| 20 Mar. (79) . . . | 5 Thur. . . | 19 16 30 | 12 Mar. (71) . . . | 4 Wed. . . | 203-4218 | 3711 |
| 21 Mar. (80) . . . | 0 Sat. . . | 1 28 39 | 1 Mar. (60) . . . | 1 Sun. . . | 79-1547 | 3712 |
| 21 Mar. (80) . . . | 1 Sun. . . | 7 40 48 | 20 Mar. (79) . . . | 0 Sat. . . | 113-9371 | 3713 |
| 20 Mar. (80) . . . | 2 Mon. . . | 13 52 57 | 9 Mar. (69) . . . | 5 Thur. . . | 328-1918 | 3714 |
| 20 Mar. (79) . . . | 3 Tues. . . | 20 5 6 | 26 Feb. (57) . . . | 2 Mon. . . | 203-9147 | 3715 |
| 21 Mar. (80) . . . | 5 Thur. . . | 2 17 15 | 17 Mar. (76) . . . | 1 Sun. . . | 238-5972 | 3716 |
| 21 Mar. (80) . . . | 6 Fri. . . | 8 29 24 | 6 Mar. (65) . . . | 5 Thur. . . | 114-3199 | 3717 |
| 20 Mar. (80) . . . | 0 Sat. . . | 14 41 33 | 24 Feb. (55) . . . | 3 Tues. . . | 328-6747 | 3718 |
| 20 Mar. (79) . . . | 1 Sun. . . | 20 53 42 | 13 Mar. (72) . . . | 1 Sun. . . | 24-7252 | 3719 |
| 21 Mar. (80) . . . | 3 Tues. . . | 3 5 51 | 3 Mar. (62) . . . | 6 Fri. . . | 232-0801 | 3720 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3721 | 542 | 677 | 26 | | 619-20 | 10 Dhātṛi . . . | | 1 Chaitra . |
| 3722 | 543 | 678 | 27 | | *620-21 | 11 Isvara . . . | | ... |
| 3723 | 544 | 679 | 28 | | 621-22 | 12 Bahubhānya . . . | | 10 Pausa . |
| 3724 | 545 | 680 | 29 | | 622-23 | 13 Pramāthm . . . | | ... |
| 3725 | 546 | 681 | 30 | | 623-24 | 14 Vikrama . . . | | ... |
| 3726 | 547 | 682 | 31 | | *624-25 | 15 Vṛisha . . . | | 6 Bhādrapada . |
| 3727 | 548 | 683 | 32 | | 625-26 | 16 Chitrabhāna . . . | | ... |
| 3728 | 549 | 684 | 33 | | 626-27 | 17 Subhāna . . . | | ... |
| 3729 | 550 | 685 | 34 | | 627-28 | 18 Tāraṇa . . . | | 3 Jyēṣṭha . |
| 3730 | 551 | 686 | 35 | | *628-29 | 19 Pārthiva . . . | | ... |
| 3731 | 552 | 687 | 36 | | 629-30 | 20 Vyaya . . . | | 11 Māgha . |
| 3732 | 553 | 688 | 37 | | 630-31 | 21 Sarvajit . . . | | ... |
| 3733 | 554 | 689 | 38 | | 631-32 | 22 Sarvaśārīn . . . | | ... |
| 3734 | 555 | 690 | 39 | | *632-33 | 23 Virādham . . . | | 8 Kārttika . |
| 3735 | 556 | 691 | 40 | | 633-34 | 24 Vikṛita . . . | | ... |
| 3736 | 557 | 692 | 41 | | 634-35 | 25 Khara . . . | | ... |
| 3737 | 558 | 693 | 42 | | 635-36 | 26 Nandana . . . | | 6 Śrāvapa § . |
| 3738 | 559 | 694 | 43 | | *636-37 | 27 Vijaya . . . | | ... |
| 3739 | 560 | 695 | 44 | | 637-38 | 28 Jaya . . . | | ... |
| 3740 | 561 | 696 | 45 | | 638-39 | 29 Manmatha . . . | | 1 Chaitra . |
| 3741 | 562 | 697 | 46 | | 639-40 | 30 Daruakha . . . | | ... |
| 3742 | 563 | 698 | 47 | | *640-41 | 31 Hēmalamba . . . | | 10 Pausa . |
| 3743 | 564 | 699 | 48 | | 641-42 | 32 Vilamba . . . | | ... |
| 3744 | 565 | 700 | 49 | | 642-43 | 33 Vikārin . . . | | ... |
| 3745 | 566 | 701 | 50 | | 643-44 | 34 Śarvarin . . . | | 6 Bhādrapada . |

§ See "Remarks," p. 523 above.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|--|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 RISES). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sukrānti. | Day and month, A.D. | Week-day. | a (here = t , the index of the $t(134)$). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . . | 4 Wed. . . | 9 18 0 | 20 Feb. (51) . . . | 3 Tues. . . | 114-8028 | 3721 |
| 20 Mar. (80) . . . | 5 Thur. . . | 15 30 9 | 10 Mar. (70) . . . | 2 Mon. . . | 149-4852 | 3722 |
| 20 Mar. (79) . . . | 6 Fri. . . | 21 42 18 | 27 Feb. (58) . . . | 6 Fri. . . | 25-2081 | 3723 |
| 21 Mar. (80) . . . | 1 Sun. . . | 3 54 27 | 18 Mar. (77) . . . | 5 Thur. . . | 59-8904 | 3724 |
| 21 Mar. (80) . . . | 2 Mon. . . | 10 6 36 | 8 Mar. (67) . . . | 3 Tues. . . | 274-2453 | 3725 |
| 20 Mar. (80) . . . | 3 Tues. . . | 16 18 45 | 25 Feb. (56) . . . | 0 Sat. . . | 149-9082 | 3726 |
| 20 Mar. (79) . . . | 4 Wed. . . | 22 30 54 | 15 Mar. (74) . . . | 6 Fri. . . | 184-6506 | 3727 |
| 21 Mar. (80) . . . | 6 Fri. . . | 4 43 3 | 4 Mar. (63) . . . | 3 Tues. . . | 60-3734 | 3728 |
| 21 Mar. (80) . . . | 0 Sat. . . | 10 55 12 | 22 Feb. (53) . . . | 1 Sun. . . | 274-7282 | 3729 |
| 20 Mar. (80) . . . | 1 Sun. . . | 17 7 21 | 12 Mar. (72) . . . | 0 Sat. . . | 309-4106 | 3730 |
| 20 Mar. (79) . . . | 2 Mon. . . | 23 19 30 | 1 Mar. (80) . . . | 4 Wed. . . | 185-1324 | 3731 |
| 21 Mar. (80) . . . | 4 Wed. . . | 5 31 39 | 20 Mar. (70) . . . | 3 Tues. . . | 219-8158 | 3732 |
| 21 Mar. (80) . . . | 5 Thur. . . | 11 43 48 | 9 Mar. (68) . . . | 0 Sat. . . | 95-6387 | 3733 |
| 20 Mar. (80) . . . | 6 Fri. . . | 17 55 57 | 27 Feb. (58) . . . | 5 Thur. . . | 309-8935 | 3734 |
| 21 Mar. (80) . . . | 1 Sun. . . | 0 8 6 | 16 Mar. (75) . . . | 3 Tues. . . | 5-9439 | 3735 |
| 21 Mar. (80) . . . | 2 Mon. . . | 8 20 15 | 6 Mar. (65) . . . | 1 Sun. . . | 220-2987 | 3736 |
| 21 Mar. (80) . . . | 3 Tues. . . | 12 32 24 | 23 Feb. (54) . . . | 5 Thur. . . | 96-0216 | 3737 |
| 20 Mar. (80) . . . | 4 Wed. . . | 18 44 33 | 13 Mar. (73) . . . | 4 Wed. . . | 130-7040 | 3738 |
| 21 Mar. (80) . . . | 6 Fri. . . | 0 56 42 | 2 Mar. (61) . . . | 1 Sun. . . | 6-4268 | 3739 |
| 21 Mar. (80) . . . | 0 Sat. . . | 7 8 51 | 20 Feb. (51) . . . | 6 Fri. . . | 220-7816 | 3740 |
| 21 Mar. (80) . . . | 1 Sun. . . | 13 21 0 | 11 Mar. (70) . . . | 5 Thur. . . | 255-9640 | 3741 |
| 20 Mar. (80) . . . | 2 Mon. . . | 19 33 9 | 28 Feb. (59) . . . | 2 Mon. . . | 131-1868 | 3742 |
| 21 Mar. (80) . . . | 4 Wed. . . | 1 45 18 | 18 Mar. (77) . . . | 1 Sun. . . | 165-8692 | 3743 |
| 21 Mar. (80) . . . | 5 Thur. . . | 7 57 27 | 7 Mar. (66) . . . | 5 Thur. . . | 41-5921 | 3744 |
| 21 Mar. (80) . . . | 6 Fri. . . | 14 9 36 | 26 Feb. (56) . . . | 3 Tues. . . | 255-9470 | 3745 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | | | 8a |
| 3746 | 507 | 702 | 51 | | *644-45 | 35 Plava | . | ... |
| 3747 | 508 | 703 | 52 | | 645-46 | 36 Śubhakarit | . | ... |
| 3748 | 509 | 704 | 53 | | 646-47 | 37 Śobhana | . | 3 Jyēṣṭha |
| 3749 | 570 | 705 | 54 | | 647-48 | 38 Krōdhā | . | ... |
| 3750 | 571 | 706 | 55 | | *648-49 | 39 Viśvāvasa † | . | 11 Māgha |
| 3751 | 572 | 707 | 56 | | 649-50 | 41 Plavaśga | . | ... |
| 3752 | 573 | 708 | 57 | | 650-51 | 42 Kṛlaka | . | ... |
| 3753 | 574 | 709 | 58 | | 651-52 | 43 Saumya | . | 8 Kārttika |
| 3754 | 575 | 710 | 59 | | *652-53 | 44 Sādhārana | . | ... |
| 3755 | 576 | 711 | 60 | | 653-54 | 45 Virōdhakarit | . | ... |
| 3756 | 577 | 712 | 61 | | 654-55 | 46 Paridhavin | . | 4 Āshādha |
| 3757 | 578 | 713 | 62 | | 655-56 | 47 Pramādin | . | ... |
| 3758 | 579 | 714 | 63 | | *656-57 | 48 Ānanda | . | ... |
| 3759 | 580 | 715 | 64 | | 657-58 | 49 Rākshasa | . | 1 Chaitra |
| 3760 | 581 | 716 | 65 | | 658-59 | 50 Anala | . | ... |
| 3761 | 582 | 717 | 66 | | 659-60 | 51 Piṅgala | . | 9 Mārgaśira |
| 3762 | 583 | 718 | 67 | | *660-61 | 52 Kālayukta | . | ... |
| 3763 | 584 | 719 | 68 | | 661-62 | 53 Siddhārthin | . | ... |
| 3764 | 585 | 720 | 69 | | 662-63 | 54 Randra | . | 6 Bhādrapada |
| 3765 | 586 | 721 | 70 | | 663-64 | 55 Darmati | . | ... |
| 3766 | 587 | 722 | 71 | | *664-65 | 56 Dandabhi | . | ... |
| 3767 | 588 | 723 | 72 | | 665-66 | 57 Rudhirōdgārin | . | 2 Vaiśākha |
| 3768 | 589 | 724 | 73 | | 666-67 | 58 Raktaksha | . | ... |
| 3769 | 590 | 725 | 74 | | 667-68 | 59 Krōdhana | . | 11 Māsim |
| 3770 | 591 | 726 | 75 | | *668-69 | 60 Kanya | . | ... |

† 40 Parābhava was suppressed, both in mean and true reckoning.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali |
| Day and month, A.D. | Week-day. | Time of mean Māshu-sankranti. | Day and month, A.D. | Week-day. | a (here = t, the index of the <i>Nīkā</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 20 Mar. (80) . . . | 0 Sat. . . | 20 21 45 | 15 Mar. (75) . . . | 2 Mon. . . | 290-6293 | 3746 |
| 21 Mar. (80) . . . | 2 Mon. . . | 2 33 54 | 4 Mar. (63) . . . | 6 Fri. . . | 166-3522 | 3747 |
| 21 Mar. (80) . . . | 3 Tues. . . | 8 46 3 | 21 Feb. (52) . . . | 3 Tues. . . | 42-0750 | 3748 |
| 21 Mar. (80) . . . | 4 Wed. . . | 14 58 12 | 12 Mar. (71) . . . | 2 Mon. . . | 76-7573 | 3749 |
| 20 Mar. (80) . . . | 5 Thur. . . | 21 10 21 | 1 Mar. (61) . . . | 0 Sat. . . | 291-1122 | 3750 |
| 21 Mar. (80) . . . | 0 Sat. . . | 3 22 30 | 20 Mar. (79) . . . | 6 Fri. . . | 325-7946 | 3751 |
| 21 Mar. (80) . . . | 1 Sun. . . | 9 34 39 | 9 Mar. (68) . . . | 3 Tues. . . | 201-5175 | 3752 |
| 21 Mar. (80) . . . | 2 Mon. . . | 15 46 48 | 26 Feb. (57) . . . | 0 Sat. . . | 77-2402 | 3753 |
| 20 Mar. (80) . . . | 3 Tues. . . | 21 58 57 | 16 Mar. (76) . . . | 0 Sat. . . | 111-9227 | 3754 |
| 21 Mar. (80) . . . | 5 Thur. . . | 4 11 6 | 6 Mar. (65) . . . | 4 Wed. . . | 326-2775 | 3755 |
| 21 Mar. (80) . . . | 6 Fri. . . | 10 23 15 | 23 Feb. (54) . . . | 1 Sun. . . | 202-0002 | 3756 |
| 21 Mar. (80) . . . | 0 Sat. . . | 16 35 24 | 14 Mar. (73) . . . | 0 Sat. . . | 236-6827 | 3757 |
| 20 Mar. (80) . . . | 1 Sun. . . | 22 47 33 | 2 Mar. (62) . . . | 4 Wed. . . | 112-4056 | 3758 |
| 21 Mar. (80) . . . | 3 Tues. . . | 4 59 42 | 20 Feb. (51) . . . | 2 Mon. . . | 326-7604 | 3759 |
| 21 Mar. (80) . . . | 4 Wed. . . | 11 11 51 | 10 Mar. (69) . . . | 0 Sat. . . | 22-8108 | 3760 |
| 21 Mar. (80) . . . | 5 Thur. . . | 17 24 0 | 28 Feb. (59) . . . | 5 Thur. . . | 237-1656 | 3761 |
| 20 Mar. (80) . . . | 6 Fri. . . | 23 36 9 | 18 Mar. (78) . . . | 4 Wed. . . | 271-8490 | 3762 |
| 21 Mar. (80) . . . | 1 Sun. . . | 5 48 18 | 7 Mar. (66) . . . | 1 Sun. . . | 147-3708 | 3763 |
| 21 Mar. (80) . . . | 2 Mon. . . | 12 0 27 | 24 Feb. (55) . . . | 3 Thur. . . | 23-2937 | 3764 |
| 21 Mar. (80) . . . | 3 Tues. . . | 18 12 36 | 15 Mar. (74) . . . | 4 Wed. . . | 57-9761 | 3765 |
| 21 Mar. (81) . . . | 5 Thur. . . | 0 24 45 | 4 Mar. (64) . . . | 2 Mon. . . | 272-3310 | 3766 |
| 21 Mar. (80) . . . | 6 Fri. . . | 6 36 54 | 21 Feb. (53) . . . | 6 Fri. . . | 148-0537 | 3767 |
| 21 Mar. (80) . . . | 0 Sat. . . | 12 49 3 | 12 Mar. (71) . . . | 5 Thur. . . | 182-7361 | 3768 |
| 21 Mar. (80) . . . | 1 Sun. . . | 19 1 12 | 1 Mar. (60) . . . | 2 Mon. . . | 58-4590 | 3769 |
| 21 Mar. (81) . . . | 3 Tues. . . | 1 13 21 | 19 Mar. (79) . . . | 1 Sun. . . | 93-1413 | 3770 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Moon intercalated (adhika) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrāñi Vikrama. | Mēshāñi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3771 | 502 | 727 | 76 | | 669-70 | 1 Prabhava . . . | | ... |
| 3772 | 503 | 728 | 77 | | 670-71 | 2 Vibhava . . . | | 7 Āsvina . . |
| 3773 | 504 | 729 | 78 | | 671-72 | 3 Sukla . . . | | ... |
| 3774 | 505 | 730 | 79 | | *672-73 | 4 Pramōda . . . | | ... |
| 3775 | 506 | 731 | 80 | | 673-74 | 5 Prajāpati . . . | | 4 Āshāḍha . . |
| 3776 | 507 | 732 | 81 | | 674-75 | 6 Aṅgiras . . . | | ... |
| 3777 | 508 | 733 | 82 | | 675-76 | 7 Śrinukha . . . | | ... |
| 3778 | 509 | 734 | 83 | | *676-77 | 8 Bhāva . . . | | 1 Chaitra . . |
| 3779 | 500 | 735 | 84 | | 677-78 | 9 Yavan . . . | | ... |
| 3780 | 501 | 736 | 85 | | 678-79 | 10 Dhātṛi . . . | | 9 Mārgaśīra . |
| 3781 | 502 | 737 | 86 | | 679-80 | 11 Īśvara . . . | | ... |
| 3782 | 503 | 738 | 87 | | *680-81 | 12 Bahadhānya . . | | ... |
| 3783 | 504 | 739 | 88 | | 681-82 | 13 Pramāthi . . . | | 6 Bhādrapada . |
| 3784 | 505 | 740 | 89 | | 682-83 | 14 Vikrama . . . | | ... |
| 3785 | 506 | 741 | 90 | | 683-84 | 15 Vṛisha . . . | | ... |
| 3786 | 507 | 742 | 91 | | *684-85 | 16 Chitrabhāna . . | | 2 Vaiśākha . . |
| 3787 | 508 | 743 | 92 | | 685-86 | 17 Subhāna . . . | | ... |
| 3788 | 509 | 744 | 93 | | 686-87 | 18 Tāraka . . . | | 11 Māgha . . |
| 3789 | 510 | 745 | 94 | | 687-88 | 19 Pārthiva . . . | | ... |
| 3790 | 511 | 746 | 95 | | *688-89 | 20 Vyaya . . . | | ... |
| 3791 | 512 | 747 | 96 | | 689-90 | 21 Sarvajit . . . | | 7 Āsvina . . |
| 3792 | 513 | 748 | 97 | | 690-91 | 22 Sarvadhāra . . | | ... |
| 3793 | 514 | 749 | 98 | | 691-92 | 23 Virūḍhin . . . | | ... |
| 3794 | 515 | 750 | 99 | | *692-93 | 24 Vīkṛita . . . | | 4 Āshāḍha . . |
| 3795 | 516 | 751 | 100 | | 693-94 | 25 Khara . . . | | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankranti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 21 Mar. (80) . . . | 4 Wed. . . | 7 25 30 | 9 Mar. (68) . . . | 0 Fri. . . | 307-4962 | 3771 |
| 21 Mar. (80) . . . | 5 Thur. . . | 13 37 39 | 26 Feb. (57) . . . | 3 Tues. . . | 183-2190 | 3772 |
| 21 Mar. (80) . . . | 6 Fri. . . | 19 49 48 | 17 Mar. (76) . . . | 2 Mon. . . | 217-0015 | 3773 |
| 21 Mar. (81) . . . | 1 Sun. . . | 2 1 57 | 5 Mar. (65) . . . | 6 Fri. . . | 93-6242 | 3774 |
| 21 Mar. (80) . . . | 2 Mon. . . | 8 14 6 | 23 Feb. (54) . . . | 4 Wed. . . | 307-9791 | 3775 |
| 21 Mar. (80) . . . | 3 Tues. . . | 14 26 15 | 13 Mar. (72) . . . | 2 Mon. . . | 4-0295 | 3776 |
| 21 Mar. (80) . . . | 4 Wed. . . | 20 38 24 | 3 Mar. (62) . . . | 0 Sat. . . | 218-3843 | 3777 |
| 21 Mar. (81) . . . | 6 Fri. . . | 2 50 33 | 20 Feb. (51) . . . | 4 Wed. . . | 94-1071 | 3778 |
| 21 Mar. (80) . . . | 0 Sat. . . | 9 2 42 | 10 Mar. (69) . . . | 3 Tues. . . | 128-7896 | 3779 |
| 21 Mar. (80) . . . | 1 Sun. . . | 15 14 51 | 27 Feb. (58) . . . | 0 Sat. . . | 4-5124 | 3780 |
| 21 Mar. (80) . . . | 2 Mon. . . | 21 27 0 | 18 Mar. (77) . . . | 6 Fri. . . | 39-1947 | 3781 |
| 21 Mar. (81) . . . | 4 Wed. . . | 3 39 9 | 7 Mar. (67) . . . | 4 Wed. . . | 253-5496 | 3782 |
| 21 Mar. (80) . . . | 5 Thur. . . | 9 51 18 | 24 Feb. (55) . . . | 1 Sun. . . | 129-2725 | 3783 |
| 21 Mar. (80) . . . | 6 Fri. . . | 16 3 27 | 15 Mar. (74) . . . | 0 Sat. . . | 163-9549 | 3784 |
| 21 Mar. (80) . . . | 0 Sat. . . | 22 15 36 | 4 Mar. (63) . . . | 4 Wed. . . | 39-6776 | 3785 |
| 21 Mar. (81) . . . | 2 Mon. . . | 4 27 45 | 22 Feb. (53) . . . | 2 Mon. . . | 254-9325 | 3786 |
| 21 Mar. (80) . . . | 3 Tues. . . | 10 39 54 | 12 Mar. (71) . . . | 1 Sun. . . | 288-7149 | 3787 |
| 21 Mar. (80) . . . | 4 Wed. . . | 16 52 3 | 1 Mar. (60) . . . | 5 Thur. . . | 184-4377 | 3788 |
| 21 Mar. (80) . . . | 5 Thur. . . | 23 4 12 | 20 Mar. (79) . . . | 4 Wed. . . | 199-1200 | 3789 |
| 21 Mar. (81) . . . | 0 Sat. . . | 5 16 21 | 8 Mar. (68) . . . | 1 Sun. . . | 74-8430 | 3790 |
| 21 Mar. (80) . . . | 1 Sun. . . | 11 28 30 | 26 Feb. (57) . . . | 6 Fri. . . | 289-1978 | 3791 |
| 21 Mar. (80) . . . | 2 Mon. . . | 17 40 39 | 17 Mar. (76) . . . | 5 Thur. . . | 323-8802 | 3792 |
| 21 Mar. (80) . . . | 3 Tues. . . | 23 52 48 | 6 Mar. (65) . . . | 2 Mon. . . | 199-6090 | 3793 |
| 21 Mar. (81) . . . | 5 Thur. . . | 6 4 57 | 23 Feb. (54) . . . | 6 Fri. . . | 75-3259 | 3794 |
| 21 Mar. (80) . . . | 6 Fri. . . | 12 17 6 | 13 Mar. (72) . . . | 5 Thur. . . | 110-0082 | 3795 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|-------------------|----------------------------------|---------|---------|---------------------|---------------------|---|
| Kali. | Saka. | Chalukya Vikrama. | Mādhavi solar year in Bengal. | Kollam. | A.D. | Jovian Sām̐vatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3796 | 617 | 752 | 101 | | 694-95 | 26 Nandana . . . | | 12 Phālguna . |
| 3797 | 618 | 753 | 102 | | 695-96 | 27 Vijaya . . . | | ... |
| 3798 | 619 | 754 | 103 | | *696-97 | 28 Jaya . . . | | ... |
| 3799 | 620 | 755 | 104 | | 697-98 | 29 Manmatha . . . | | 9 Mārgaśīra . |
| 3800 | 621 | 756 | 105 | | 698-99 | 30 Darmakha . . . | | ... |
| 3801 | 622 | 757 | 106 | | 699-700 | 31 Hāmalaṃba . . . | | ... |
| 3802 | 623 | 758 | 107 | | *700-01 | 32 Vilamba . . . | | 5 Śrāvapa . |
| 3803 | 624 | 759 | 108 | | 701-02 | 33 Vikārin . . . | | ... |
| 3804 | 625 | 760 | 109 | | 702-03 | 34 Śārvarin . . . | | ... |
| 3805 | 626 | 761 | 110 | | 703-04 | 35 Plava . . . | | 2 Vaiśākha . |
| 3806 | 627 | 762 | 111 | | *704-05 | 36 Śubhakṛt . . . | | ... |
| 3807 | 628 | 763 | 112 | | 705-06 | 37 Śōbhana . . . | | 10 Pausa . |
| 3808 | 629 | 764 | 113 | | 706-07 | 38 Krōdhin . . . | | ... |
| 3809 | 630 | 765 | 114 | | 707-08 | 39 Viśvānu . . . | | ... |
| 3810 | 631 | 766 | 115 | | *708-09 | 40 Parābhava . . . | | 7 Āsrina . |
| 3811 | 632 | 767 | 116 | | 709-10 | 41 Plavaṅga . . . | | ... |
| 3812 | 633 | 768 | 117 | | 710-11 | 42 Kilaka . . . | | ... |
| 3813 | 634 | 769 | 118 | | 711-12 | 43 Saumya . . . | | 4 Ashāḍha . |
| 3814 | 635 | 770 | 119 | | *712-13 | 44 Sādhārapa . . . | | ... |
| 3815 | 636 | 771 | 120 | | 713-14 | 45 Virōdhakṛt . . . | | 12 Phālguna . |
| 3816 | 637 | 772 | 121 | | 714-15 | 46 Parādhavin . . . | | ... |
| 3817 | 638 | 773 | 122 | | 715-16 | 47 Pramādin . . . | | ... |
| 3818 | 639 | 774 | 123 | | *716-17 | 48 Ānanda . . . | | 9 Mārgaśīra . |
| 3819 | 640 | 775 | 124 | | 717-18 | 49 Rikheṇa . . . | | ... |
| 3820 | 641 | 776 | 125 | | 718-19 | 50 Anala . . . | | ... |

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-sukhrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>t/tāi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 21 Mar. (80) . . . | 0 Sat. . . | 18 29 15 | 3 Mar. (62) . . . | 3 Tues. . . | 324-3031 | 3796 |
| 22 Mar. (81) . . . | 2 Mon. . . | 0 41 24 | 21 Mar. (80) . . . | 1 Sun. . . | 20-4135 | 3797 |
| 21 Mar. (81) . . . | 3 Tues. . . | 6 53 23 | 10 Mar. (70) . . . | 6 Fri. . . | 234-7083 | 3798 |
| 21 Mar. (80) . . . | 4 Wed. . . | 13 5 42 | 27 Feb. (58) . . . | 3 Tues. . . | 110-4911 | 3799 |
| 21 Mar. (80) . . . | 5 Thur. . . | 19 17 51 | 18 Mar. (77) . . . | 2 Mon. . . | 145-1723 | 3800 |
| 22 Mar. (81) . . . | 0 Sat. . . | 1 30 0 | 7 Mar. (66) . . . | 6 Fri. . . | 20-8083 | 3801 |
| 21 Mar. (81) . . . | 1 Sun. . . | 7 42 9 | 25 Feb. (56) . . . | 4 Wed. . . | 235-2512 | 3802 |
| 21 Mar. (80) . . . | 2 Mon. . . | 13 54 18 | 15 Mar. (74) . . . | 3 Tues. . . | 260-9339 | 3803 |
| 21 Mar. (80) . . . | 3 Tues. . . | 20 6 27 | 4 Mar. (63) . . . | 0 Sat. . . | 145-6564 | 3804 |
| 22 Mar. (81) . . . | 5 Thur. . . | 2 18 36 | 21 Feb. (52) . . . | 4 Wed. . . | 21-3792 | 3805 |
| 21 Mar. (80) . . . | 6 Fri. . . | 8 30 45 | 11 Mar. (71) . . . | 3 Tues. . . | 56-0818 | 3806 |
| 21 Mar. (80) . . . | 0 Sat. . . | 14 42 54 | 1 Mar. (60) . . . | 1 Sun. . . | 270-6164 | 3807 |
| 21 Mar. (80) . . . | 1 Sun. . . | 20 55 3 | 20 Mar. (79) . . . | 0 Sat. . . | 305-0088 | 3808 |
| 22 Mar. (81) . . . | 3 Tues. . . | 3 7 12 | 9 Mar. (68) . . . | 4 Wed. . . | 180-8217 | 3809 |
| 21 Mar. (81) . . . | 4 Wed. . . | 9 19 21 | 26 Feb. (57) . . . | 1 Sun. . . | 56-5444 | 3810 |
| 21 Mar. (80) . . . | 5 Thur. . . | 15 31 30 | 16 Mar. (75) . . . | 0 Sat. . . | 91-2269 | 3811 |
| 21 Mar. (80) . . . | 6 Fri. . . | 21 43 39 | 6 Mar. (65) . . . | 5 Thur. . . | 305-5817 | 3812 |
| 22 Mar. (81) . . . | 1 Sun. . . | 3 55 48 | 23 Feb. (54) . . . | 2 Mon. . . | 181-3046 | 3813 |
| 21 Mar. (81) . . . | 2 Mon. . . | 10 7 57 | 13 Mar. (73) . . . | 1 Sun. . . | 215-9869 | 3814 |
| 21 Mar. (80) . . . | 3 Tues. . . | 16 20 6 | 2 Mar. (61) . . . | 5 Thur. . . | 91-7098 | 3815 |
| 21 Mar. (80) . . . | 4 Wed. . . | 22 32 15 | 21 Mar. (80) . . . | 4 Wed. . . | 126-3922 | 3816 |
| 22 Mar. (81) . . . | 6 Fri. . . | 4 44 24 | 10 Mar. (69) . . . | 1 Sun. . . | 2-1150 | 3817 |
| 21 Mar. (81) . . . | 0 Sat. . . | 10 56 23 | 28 Feb. (59) . . . | 6 Fri. . . | 216-4698 | 3818 |
| 21 Mar. (80) . . . | 1 Sun. . . | 17 8 42 | 18 Mar. (77) . . . | 5 Thur. . . | 251-1632 | 3819 |
| 21 Mar. (80) . . . | 2 Mon. . . | 23 20 51 | 7 Mar. (66) . . . | 2 Mon. . . | 126-8751 | 3820 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|--------------------------|---------------------|---|
| Kali. | Śaka. | Chaitrañi Vikrama. | Mēshīlī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3821 | 642 | 777 | 126 | | 719-20 | 51 Pīṅgala | | 5 Śrāvāṇa . . |
| 3822 | 643 | 778 | 127 | | *720-21 | 52 Kālayukta | | ... |
| 3823 | 644 | 779 | 128 | | 721-22 | 53 Siddhārthīn | | ... |
| 3824 | 645 | 780 | 129 | | 722-23 | 54 Raudra | | 2 Vaiśākha . . |
| 3825 | 646 | 781 | 130 | | 723-24 | 55 Durmati | | ... |
| 3826 | 647 | 782 | 131 | | *724-25 | 56 Dundabhi | | 10 Pausa . . |
| 3827 | 648 | 783 | 132 | | 725-26 | 57 Rudhirōdgācin | | ... |
| 3828 | 649 | 784 | 133 | | 726-27 | 58 Raktāksha | | ... |
| 3829 | 650 | 785 | 134 | | 727-28 | 59 Krōdhana | | 7 Āvina . . |
| 3830 | 651 | 786 | 135 | | *728-29 | 60 Kahaya | | ... |
| 3831 | 652 | 787 | 136 | | 729-30 | 1 Prabhava | | ... |
| 3832 | 653 | 788 | 137 | | 730-31 | 2 Vibhava | | 3 Jyēsthā . . |
| 3833 | 654 | 789 | 138 | | 731-32 | 3 Sakā | | ... |
| 3834 | 655 | 790 | 139 | | *732-33 | 4 Pramōda | | 12 Phālguna . . |
| 3835 | 656 | 791 | 140 | | 733-34 | 5 Prajāpati† | | ... |
| 3836 | 657 | 792 | 141 | | 734-35 | 7 Śrīmukha | | ... |
| 3837 | 658 | 793 | 142 | | 735-36 | 8 Bhāva | | 8 Kārttika . . |
| 3838 | 659 | 794 | 143 | | *736-37 | 9 Yava | | ... |
| 3839 | 660 | 795 | 144 | | 737-38 | 10 Dhātṛi | | ... |
| 3840 | 661 | 796 | 145 | | 738-39 | 11 Jvara | | 5 Śrāvāṇa . . |
| 3841 | 662 | 797 | 146 | | 739-40 | 12 Bahudhānya | | ... |
| 3842 | 663 | 798 | 147 | | *740-41 | 13 Pramāthīn | | ... |
| 3843 | 664 | 799 | 148 | | 741-42 | 14 Vikrama | | 1 Chaitra . . |
| 3844 | 665 | 800 | 149 | | 742-43 | 15 Vṛisha | | ... |
| 3845 | 666 | 801 | 150 | | 743-44 | 16 Chitrabhāṇa | | 10 Pausa . . |

† No. 6 Āgiras was suppressed according to the mean system. By the *Brahma-Siddhanta* 'true' system K.Y. 3836, A.D. 734-735, was called Āgiras, 7 Śrīmukha being suppressed. K.Y. 3837, A.D. 735-36, was 8 Bhāva by both systems.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---------------------------------------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 22 Mar. (81) | 4 Wed. | 5 33 0 | 24 Feb. (55) | 6 Fri. | 25079 | 3821 |
| 21 Mar. (81) | 5 Thur. | 11 45 9 | 14 Mar. (74) | 5 Thur. | 37-2803 | 3822 |
| 21 Mar. (80) | 6 Fri. | 17 57 18 | 4 Mar. (68) | 3 Tues. | 251-6352 | 3823 |
| 22 Mar. (81) | 1 Sun. | 0 9 27 | 21 Feb. (52) | 0 Sat. | 127-3579 | 3824 |
| 22 Mar. (81) | 2 Mon. | 6 21 36 | 12 Mar. (71) | 6 Fri. | 162-0403 | 3825 |
| 21 Mar. (81) | 3 Tues. | 12 33 45 | 20 Feb. (60) | 3 Tues. | 37-7632 | 3826 |
| 21 Mar. (80) | 4 Wed. | 18 45 54 | 19 Mar. (78) | 2 Mon. | 72-4457 | 3827 |
| 22 Mar. (81) | 6 Fri. | 0 58 3 | 9 Mar. (68) | 0 Sat. | 286-8004 | 3828 |
| 22 Mar. (81) | 0 Sat. | 7 10 12 | 26 Feb. (57) | 4 Wed. | 162-5233 | 3829 |
| 21 Mar. (81) | 1 Sun. | 13 22 21 | 16 Mar. (76) | 3 Tues. | 197-2057 | 3830 |
| 21 Mar. (80) | 2 Mon. | 19 34 30 | 5 Mar. (64) | 0 Sat. | 72-0284 | 3831 |
| 22 Mar. (81) | 4 Wed. | 1 46 39 | 23 Feb. (54) | 5 Thur. | 287-2833 | 3832 |
| 22 Mar. (81) | 5 Thur. | 7 58 48 | 14 Mar. (73) | 4 Wed. | 321-2657 | 3833 |
| 21 Mar. (81) | 6 Fri. | 14 10 57 | 2 Mar. (62) | 1 Sun. | 197-6886 | 3834 |
| 21 Mar. (80) | 0 Sat. | 20 23 6 | 21 Mar. (80) | 0 Sat. | 232-3700 | 3835 |
| 22 Mar. (81) | 2 Mon. | 2 35 15 | 10 Mar. (69) | 4 Wed. | 108-0038 | 3836 |
| 22 Mar. (81) | 3 Tues. | 8 47 24 | 28 Feb. (59) | 2 Mon. | 322-4486 | 3837 |
| 21 Mar. (81) | 4 Wed. | 14 59 33 | 17 Mar. (77) | 0 Sat. | 18-4990 | 3838 |
| 21 Mar. (80) | 5 Thur. | 21 11 42 | 7 Mar. (66) | 5 Thur. | 232-8538 | 3839 |
| 22 Mar. (81) | 0 Sat. | 3 23 51 | 24 Feb. (56) | 2 Mon. | 108-5767 | 3840 |
| 22 Mar. (81) | 1 Sun. | 9 36 0 | 15 Mar. (74) | 1 Sun. | 143-2501 | 3841 |
| 21 Mar. (81) | 2 Mon. | 15 48 9 | 3 Mar. (63) | 5 Thur. | 18-0819 | 3842 |
| 21 Mar. (80) | 3 Tues. | 22 0 18 | 21 Feb. (52) | 3 Tues. | 233-3367 | 3843 |
| 22 Mar. (81) | 5 Thur. | 4 12 27 | 12 Mar. (71) | 2 Mon. | 268-0191 | 3844 |
| 22 Mar. (81) | 6 Fri. | 10 24 36 | 1 Mar. (60) | 6 Fri. | 143 7420 | 3845 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Most intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|---------------------|-----------------------------------|---------|---------|----------------------|---------------------|---|
| Kali. | Saka. | Chaitradit Vikrama. | Māhāditi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3846 | 667 | 802 | 151 | | *744-45 | 17 Subhānu . . . | | ... |
| 3847 | 668 | 803 | 152 | | 745-46 | 18 Tārāpa . . . | | ... |
| 3848 | 669 | 804 | 153 | | 746-47 | 19 Pārthiva . . . | | 6 Bhādrapada . |
| 3849 | 670 | 805 | 154 | | 747-48 | 20 Vyaya . . . | | ... |
| 3850 | 671 | 806 | 155 | | *748-49 | 21 Sarvajit . . . | | ... |
| 3851 | 672 | 807 | 156 | | 749-50 | 22 Sarvadhārin . . . | | 3 Jyēṣṭha . |
| 3852 | 673 | 808 | 157 | | 750-51 | 23 Viśodhin . . . | | ... |
| 3853 | 674 | 809 | 158 | | 751-52 | 24 Vikṣita . . . | | 12 Phālguna |
| 3854 | 675 | 810 | 159 | | *752-53 | 25 Khara . . . | | ... |
| 3855 | 676 | 811 | 160 | | 753-54 | 26 Nandana . . . | | ... |
| 3856 | 677 | 812 | 161 | | 754-55 | 27 Vijaya . . . | | 8 Kārtika |
| 3857 | 678 | 813 | 162 | | 755-56 | 28 Jaya . . . | | ... |
| 3858 | 679 | 814 | 163 | | *756-57 | 29 Mantātha . . . | | ... |
| 3859 | 680 | 815 | 164 | | 757-58 | 30 Darmakha . . . | | 5 Śrāvāṇa |
| 3860 | 681 | 816 | 165 | | 758-59 | 31 Hēmalamba . . . | | ... |
| 3861 | 682 | 817 | 166 | | 759-60 | 32 Vilamba . . . | | ... |
| 3862 | 683 | 818 | 167 | | *760-61 | 33 Vikārin . . . | | 1 Chaitra |
| 3863 | 684 | 819 | 168 | | 761-62 | 34 Sārvarin . . . | | ... |
| 3864 | 685 | 820 | 169 | | 762-63 | 35 Plava . . . | | 10 Pausa |
| 3865 | 686 | 821 | 170 | | 763-64 | 36 Subhākrit . . . | | ... |
| 3866 | 687 | 822 | 171 | | *764-65 | 37 Sōbhana . . . | | ... |
| 3867 | 688 | 823 | 172 | | 765-66 | 38 Krādhin . . . | | 6 Bhādrapada . |
| 3868 | 689 | 824 | 173 | | 766-67 | 39 Viśvāvaṇ . . . | | ... |
| 3869 | 690 | 825 | 174 | | 767-68 | 40 Parābhava . . . | | ... |
| 3870 | 691 | 826 | 175 | | *768-69 | 41 Plavaṅga . . . | | 3 Jyēṣṭha |

XC—Contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sahkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>śikhi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 21 Mar. (81) . . . | 0 Sat. . . | 15 36 45 | 19 Mar. (79) . . . | 5 Thur. . . | 178-4243 | 3846 |
| 21 Mar. (80) . . . | 1 Sun. . . | 22 48 54 | 8 Mar. (67) . . . | 2 Mon. . . | 54-1472 | 3847 |
| 22 Mar. (81) . . . | 3 Tues. . . | 5 1 3 | 26 Feb. (57) . . . | 0 Sat. . . | 298-5021 | 3848 |
| 22 Mar. (81) . . . | 4 Wed. . . | 11 13 12 | 17 Mar. (76) . . . | 6 Fri. . . | 303-1844 | 3849 |
| 21 Mar. (81) . . . | 5 Thur. . . | 17 25 21 | 5 Mar. (65) . . . | 3 Tues. . . | 178-9072 | 3850 |
| 21 Mar. (80) . . . | 6 Fri. . . | 23 37 30 | 22 Feb. (55) . . . | 0 Sat. . . | 54-6301 | 3851 |
| 22 Mar. (81) . . . | 1 Sun. . . | 5 49 39 | 13 Mar. (72) . . . | 6 Fri. . . | 89-3125 | 3852 |
| 22 Mar. (81) . . . | 2 Mon. . . | 12 1 48 | 3 Mar. (62) . . . | 4 Wed. . . | 303-6673 | 3853 |
| 21 Mar. (81) . . . | 3 Tues. . . | 18 13 57 | 20 Mar. (80) . . . | 2 Mon. . . | 9999-7177§ | 3854 |
| 22 Mar. (81) . . . | 5 Thur. . . | 0 26 6 | 10 Mar. (69) . . . | 0 Sat. . . | 214-0726 | 3855 |
| 22 Mar. (81) . . . | 6 Fri. . . | 6 38 15 | 27 Feb. (58) . . . | 4 Wed. . . | 89-7953 | 3856 |
| 22 Mar. (81) . . . | 0 Sat. . . | 12 50 24 | 18 Mar. (77) . . . | 3 Tues. . . | 124-4778 | 3857 |
| 21 Mar. (81) . . . | 1 Sun. . . | 19 2 33 | 6 Mar. (66) . . . | 0 Sat. . . | 0-2006 | 3858 |
| 22 Mar. (81) . . . | 3 Tues. . . | 1 14 42 | 24 Feb. (55) . . . | 5 Thur. . . | 214-5555 | 3859 |
| 22 Mar. (81) . . . | 4 Wed. . . | 7 26 51 | 15 Mar. (74) . . . | 4 Wed. . . | 249-2378 | 3860 |
| 22 Mar. (81) . . . | 5 Thur. . . | 13 39 0 | 4 Mar. (63) . . . | 1 Sun. . . | 124-9607 | 3861 |
| 21 Mar. (81) . . . | 6 Fri. . . | 19 51 9 | 21 Feb. (52) . . . | 5 Thur. . . | 0-6835 | 3862 |
| 22 Mar. (81) . . . | 1 Sun. . . | 2 3 18 | 11 Mar. (70) . . . | 4 Wed. . . | 35-3658 | 3863 |
| 22 Mar. (81) . . . | 2 Mon. . . | 8 15 27 | 1 Mar. (60) . . . | 2 Mon. . . | 249-7207 | 3864 |
| 22 Mar. (81) . . . | 3 Tues. . . | 14 27 36 | 20 Mar. (79) . . . | 1 Sun. . . | 284-4031 | 3865 |
| 21 Mar. (81) . . . | 4 Wed. . . | 20 39 45 | 8 Mar. (68) . . . | 5 Thur. . . | 160-1261 | 3866 |
| 22 Mar. (81) . . . | 6 Fri. . . | 2 51 54 | 25 Feb. (56) . . . | 2 Mon. . . | 35-8488 | 3867 |
| 22 Mar. (81) . . . | 0 Sat. . . | 9 4 3 | 16 Mar. (75) . . . | 1 Sun. . . | 70-5312 | 3868 |
| 22 Mar. (81) . . . | 1 Sun. . . | 15 16 12 | 6 Mar. (65) . . . | 6 Fri. . . | 284-8860 | 3869 |
| 21 Mar. (81) . . . | 2 Mon. . . | 21 28 21 | 23 Feb. (54) . . . | 3 Tues. . . | 160-6088 | 3870 |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|---------|-----------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3871 | 692 | 827 | 176 | | 769-70 | 42 Kṛkka . . . | | ... |
| 3872 | 693 | 828 | 177 | | 770-71 | 43 Saumya . . . | | 11 Māgha . . |
| 3873 | 694 | 829 | 178 | | 771-72 | 44 Sādhārṇya . . . | | ... |
| 3874 | 695 | 830 | 179 | | *772-73 | 45 Virōdhakṛit . . . | | ... |
| 3875 | 696 | 831 | 180 | | 773-74 | 46 Paridhāvin . . . | | 8 Kārttika . . |
| 3876 | 697 | 832 | 181 | | 774-75 | 47 Pramādin . . . | | ... |
| 3877 | 698 | 833 | 182 | | 775-76 | 48 Ānanda . . . | | ... |
| 3878 | 699 | 834 | 183 | | *776-77 | 49 Rākshasa . . . | | 4 Āshādha . . |
| 3879 | 700 | 835 | 184 | | 777-78 | 50 Anala . . . | | |
| 3880 | 701 | 836 | 185 | | 778-79 | 51 Piṅgala . . . | | ... |
| 3881 | 702 | 837 | 186 | | 779-80 | 52 Kālayukta . . . | | 1 Chaitra . . |
| 3882 | 703 | 838 | 187 | | *780-81 | 53 Siddhārthin . . . | | ... |
| 3883 | 704 | 839 | 188 | | 781-82 | 54 Itandra . . . | | 9 Mārgaśīra . . |
| 3884 | 705 | 840 | 189 | | 782-83 | 55 Durnati . . . | | ... |
| 3885 | 706 | 841 | 190 | | 783-84 | 56 Daudabhi . . . | | ... |
| 3886 | 707 | 842 | 191 | | *784-85 | 57 Rudhrōdgārin . . . | | 6 Bhādrapada . . |
| 3887 | 708 | 843 | 192 | | 785-86 | 58 Raktāksha . . . | | ... |
| 3888 | 709 | 844 | 193 | | 786-87 | 59 Krōdhana . . . | | ... |
| 3889 | 710 | 845 | 194 | | 787-88 | 60 Kshaya . . . | | 3 Jyēṣṭha . . |
| 3890 | 711 | 846 | 195 | | *788-89 | 1 Prabhava . . . | | ... |
| 3891 | 712 | 847 | 196 | | 789-90 | 2 Vibhava . . . | | 11 Māgha . . |
| 3892 | 713 | 848 | 197 | | 790-91 | 3 Śukla . . . | | ... |
| 3893 | 714 | 849 | 198 | | 791-92 | 4 Pramōda . . . | | ... |
| 3894 | 715 | 850 | 199 | | *792-93 | 5 Prajāpati . . . | | 8 Kārttika . . |
| 3895 | 716 | 851 | 200 | | 793-94 | 6 Aṅgīrasa . . . | | ... |

XC—Contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣin-sukrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the t th). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 22 Mar. (81) | 4 Wed. | 3 40 30 | 13 Mar. (72) | 2 Mon. | 195-2912 | 3871 |
| 22 Mar. (81) | 5 Thur. | 9 52 39 | 2 Mar. (61) | 6 Fri. | 71-0141 | 3872 |
| 22 Mar. (81) | 6 Fri. | 16 4 48 | 21 Mar. (80) | 5 Thur. | 105-6965 | 3873 |
| 21 Mar. (81) | 0 Sat. | 22 16 57 | 10 Mar. (70) | 3 Tues. | 320-0513 | 3874 |
| 22 Mar. (81) | 2 Mon. | 4 29 6 | 27 Feb. (58) | 0 Sat. | 195-7741 | 3875 |
| 22 Mar. (81) | 3 Tues. | 10 41 15 | 18 Mar. (77) | 6 Fri. | 230-4566 | 3876 |
| 22 Mar. (81) | 4 Wed. | 16 53 24 | 7 Mar. (66) | 3 Tues. | 106-1793 | 3877 |
| 21 Mar. (81) | 5 Thur. | 23 5 33 | 25 Feb. (56) | 1 Sun. | 320-5342 | 3878 |
| 22 Mar. (81) | 0 Sat. | 5 17 42 | 14 Mar. (73) | 6 Fri. | 16-5846 | 3879 |
| 22 Mar. (81) | 1 Sun. | 11 29 51 | 4 Mar. (63) | 4 Wed. | 230-9305 | 3880 |
| 22 Mar. (81) | 2 Mon. | 17 42 0 | 21 Feb. (52) | 1 Sun. | 106-6622 | 3881 |
| 21 Mar. (81) | 3 Tues. | 23 54 9 | 11 Mar. (71) | 0 Sat. | 141-3446 | 3882 |
| 22 Mar. (81) | 5 Thur. | 6 6 18 | 28 Feb. (59) | 4 Wed. | 17-0675 | 3883 |
| 22 Mar. (81) | 6 Fri. | 12 18 27 | 19 Mar. (78) | 3 Tues. | 51-7409 | 3884 |
| 22 Mar. (81) | 0 Sat. | 18 30 36 | 9 Mar. (68) | 1 Sun. | 266-1047 | 3885 |
| 22 Mar. (82) | 2 Mon. | 0 42 45 | 26 Feb. (57) | 5 Thur. | 141-8276 | 3886 |
| 22 Mar. (81) | 3 Tues. | 6 54 54 | 16 Mar. (75) | 4 Wed. | 176-5100 | 3887 |
| 22 Mar. (81) | 4 Wed. | 13 7 3 | 5 Mar. (64) | 1 Sun. | 52-2327 | 3888 |
| 22 Mar. (81) | 5 Thur. | 19 19 12 | 23 Feb. (54) | 6 Fri. | 266-5876 | 3889 |
| 22 Mar. (82) | 0 Sat. | 1 31 21 | 13 Mar. (73) | 5 Thur. | 361-2700 | 3890 |
| 22 Mar. (81) | 1 Sun. | 7 43 30 | 2 Mar. (61) | 2 Mon. | 176-9929 | 3891 |
| 22 Mar. (81) | 2 Mon. | 13 55 39 | 21 Mar. (80) | 1 Sun. | 211-6752 | 3892 |
| 22 Mar. (81) | 3 Tues. | 20 7 48 | 10 Mar. (69) | 5 Thur. | 87-3981 | 3893 |
| 22 Mar. (82) | 5 Thur. | 2 19 57 | 28 Feb. (59) | 3 Tues. | 361-7530 | 3894 |
| 22 Mar. (81) | 6 Fri. | 8 32 6 | 17 Mar. (76) | 1 Sun. | 9097-8033 § | 3895 |

§ Chaitra $\mu\alpha\sigma/\lambda$ 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|---------------------|---------------------------------|---------|---------|----------------------|---------------------|---|
| Kal. | Śaka. | Chaitraidi Vikrama. | Māhādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3896 | 717 | 852 | 201 | | 794-95 | 7 Śimukha . . . | | ... |
| 3897 | 718 | 853 | 202 | | 795-96 | 8 Bhāva . . . | | 4 Āshādha . |
| 3898 | 719 | 854 | 203 | | *796-97 | 9 Yuvan . . . | | ... |
| 3899 | 720 | 855 | 204 | | 797-98 | 10 Dhātṛi . . . | | ... |
| 3900 | 721 | 856 | 205 | | 798-99 | 11 Īśvara . . . | | 1 Chaitra . |
| 3901 | 722 | 857 | 206 | | 799-800 | 12 Bahudhānya . . . | | ... |
| 3902 | 723 | 858 | 207 | | *800-01 | 13 Pramāthin . . . | | 9 Mārgaśīra . |
| 3903 | 724 | 859 | 208 | | 801-02 | 14 Vikrama . . . | | ... |
| 3904 | 725 | 860 | 209 | | 802-03 | 15 Vṛjsha . . . | | ... |
| 3905 | 726 | 861 | 210 | | 803-04 | 16 Chitrabhānu . . . | | 6 Bhādrapada . |
| 3906 | 727 | 862 | 211 | | *804-05 | 17 Subhānu . . . | | ... |
| 3907 | 728 | 863 | 212 | | 805-06 | 18 Tāraṇa . . . | | ... |
| 3908 | 729 | 864 | 213 | | 806-07 | 19 Pārthiva . . . | | 2 Vaiśākha . |
| 3909 | 730 | 865 | 214 | | 807-08 | 20 Vyaya . . . | | ... |
| 3910 | 731 | 866 | 215 | | *808-09 | 21 Sarvajit . . . | | 11 Māgha . |
| 3911 | 732 | 867 | 216 | | 809-10 | 22 Sarvadhārin . . . | | ... |
| 3912 | 733 | 868 | 217 | | 810-11 | 23 Virōdhin . . . | | ... |
| 3913 | 734 | 869 | 218 | | 811-12 | 24 Vikṛita . . . | | 7 Āśvina . |
| 3914 | 735 | 870 | 219 | | *812-13 | 25 Khara . . . | | ... |
| 3915 | 736 | 871 | 220 | | 813-14 | 26 Nandana . . . | | ... |
| 3916 | 737 | 872 | 221 | | 814-15 | 27 Vijaya . . . | | 4 Āshādha . |
| 3917 | 738 | 873 | 222 | | 815-16 | 28 Jaya . . . | | ... |
| 3918 | 739 | 874 | 223 | | *816-17 | 29 Manmatha . . . | | 12 Phālguna . |
| 3919 | 740 | 875 | 224 | | 817-18 | 30 Durmukha . . . | | ... |
| 3920 | 741 | 876 | 225 | | 818-19 | 31 Hēmalamba† . . . | | ... |

† 32 Vilamba was suppressed by mean reckoning. By *Brahma-Siddhānta* "true" reckoning the year K. Y. 8921, A.D. 819-20, was 32 "Vilamba," and 33 Vikāra was suppressed.

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| COMMENCEMENT OF THE | | | | | | Kal. |
|---------------------|-----------|-------------------------------|---|-----------|--|------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-anūkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 22 Mar. (81) | 0 Sat. | 14 44 15 | 7 Mar. (66) | 6 Fri. | 212-1581 | 3896 |
| 22 Mar. (81) | 1 Sun. | 20 56 24 | 24 Feb. (55) | 3 Tues. | 87-8810 | 3897 |
| 22 Mar. (82) | 3 Tues. | 3 8 33 | 14 Mar. (74) | 2 Mon. | 122-5633 | 3898 |
| 22 Mar. (81) | 4 Wed. | 9 20 42 | 3 Mar. (62) | 6 Fri. | 9908-2862½ | 3899 |
| 22 Mar. (81) | 5 Thurs. | 15 32 51 | 21 Feb. (52) | 4 Wed. | 212-6410 | 3900 |
| 22 Mar. (81) | 6 Fri. | 21 45 0 | 12 Mar. (71) | 3 Tues. | 247-3234 | 3901 |
| 22 Mar. (82) | 1 Sun. | 3 57 9 | 29 Feb. (60) | 0 Sat. | 123-0463 | 3902 |
| 22 Mar. (81) | 2 Mon. | 10 9 18 | 19 Mar. (78) | 6 Fri. | 157-7287 | 3903 |
| 22 Mar. (81) | 3 Tues. | 16 21 27 | 8 Mar. (67) | 3 Tues. | 33-4516 | 3904 |
| 22 Mar. (81) | 4 Wed. | 22 33 36 | 26 Feb. (57) | 1 Sun. | 247-8064 | 3905 |
| 22 Mar. (82) | 6 Fri. | 4 45 45 | 16 Mar. (76) | 0 Sat. | 282-4888 | 3906 |
| 22 Mar. (81) | 0 Sat. | 10 57 54 | 5 Mar. (64) | 4 Wed. | 158-2115 | 3907 |
| 22 Mar. (81) | 1 Sun. | 17 10 3 | 22 Feb. (53) | 1 Sun. | 33-0344 | 3908 |
| 22 Mar. (81) | 2 Mon. | 23 22 12 | 13 Mar. (72) | 0 Sat. | 68-6108 | 3909 |
| 22 Mar. (82) | 4 Wed. | 5 34 21 | 2 Mar. (62) | 5 Thurs. | 282-9716 | 3910 |
| 22 Mar. (81) | 5 Thurs. | 11 46 30 | 21 Mar. (80) | 4 Wed. | 317-6540 | 3911 |
| 22 Mar. (81) | 6 Fri. | 17 58 39 | 10 Mar. (69) | 1 Sun. | 193-3769 | 3912 |
| 23 Mar. (82) | 1 Sun. | 0 10 48 | 27 Feb. (58) | 5 Thurs. | 69-0998 | 3913 |
| 22 Mar. (82) | 2 Mon. | 6 22 57 | 17 Mar. (77) | 4 Wed. | 103-7821 | 3914 |
| 22 Mar. (81) | 3 Tues. | 12 35 6 | 7 Mar. (66) | 2 Mon. | 218-1269 | 3915 |
| 22 Mar. (81) | 4 Wed. | 18 47 15 | 24 Feb. (55) | 6 Fri. | 193-6598 | 3916 |
| 23 Mar. (82) | 6 Fri. | 0 59 24 | 15 Mar. (74) | 5 Thurs. | 228-5421 | 3917 |
| 22 Mar. (82) | 0 Sat. | 7 11 33 | 3 Mar. (63) | 2 Mon. | 104-2650 | 3918 |
| 22 Mar. (81) | 1 Sun. | 13 23 42 | 22 Mar. (81) | 1 Sun. | 138-9474 | 3919 |
| 22 Mar. (81) | 2 Mon. | 19 35 51 | 11 Mar. (70) | 5 Thurs. | 14-6709 | 3920 |

§ Chaitra Śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|-------------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikramā. | Māshādī solar year in Bengal. | Kollam. | A.D. | Jovian SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| | | | | | | | | |
| 3921 | 742 | 877 | 226 | | 819-20 | 33 <i>Vikāra</i> | | 9 Mārgaśīra |
| 3922 | 743 | 878 | 227 | | *820-21 | 34 <i>Śāraṇa</i> | | ... |
| 3923 | 744 | 879 | 228 | | 821-22 | 35 <i>Plava</i> | | ... |
| 3924 | 745 | 880 | 229 | | 822-23 | 36 <i>Śubhakarī</i> | | 6 Bhādrapada‡ |
| 3925 | 746 | 881 | 230 | | 823-24 | 37 <i>Śākhana</i> | | ... |
| 3926 | 747 | 882 | 231 | | *824-25 | 38 <i>Kṛāthīn</i> | | ... |
| 3927 | 748 | 883 | 232 | 0-1 | 825-26 | 39 <i>Viśvāvaṇ</i> | | 2 Vatsākha |
| 3928 | 749 | 884 | 233 | 1-2 | 826-27 | 40 <i>Parībhava</i> | | ... |
| 3929 | 750 | 885 | 234 | 2-3 | 827-28 | 41 <i>Plavaṅga</i> | | 11 Māgha |
| 3930 | 751 | 886 | 235 | 3-4 | *828-29 | 42 <i>Kilaka</i> | | ... |
| 3931 | 752 | 887 | 236 | 4-5 | 829-30 | 43 <i>Samya</i> | | ... |
| 3932 | 753 | 888 | 237 | 5-6 | 830-31 | 44 <i>Sādharāṇa</i> | | 7 Āśvina |
| 3933 | 754 | 889 | 238 | 6-7 | 831-32 | 45 <i>Vināśhakṛt</i> | | ... |
| 3934 | 755 | 890 | 239 | 7-8 | *832-33 | 46 <i>Parīdhāvin</i> | | ... |
| 3935 | 756 | 891 | 240 | 8-9 | 833-34 | 47 <i>Pramādin</i> | | 4 Āśādhya |
| 3936 | 757 | 892 | 241 | 9-10 | 834-35 | 48 <i>Ananda</i> | | ... |
| 3937 | 758 | 893 | 242 | 10-11 | 835-36 | 49 <i>Rākhaṇa</i> | | 12 Phālguna |
| 3938 | 759 | 894 | 243 | 11-12 | *836-37 | 50 <i>Anala</i> | | ... |
| 3939 | 760 | 895 | 244 | 12-13 | 837-38 | 51 <i>Pīṅgala</i> | | ... |
| 3940 | 761 | 896 | 245 | 13-14 | 838-39 | 52 <i>Kālayukta</i> | | 9 Mārgaśīra |
| 3941 | 762 | 897 | 246 | 14-15 | 839-40 | 53 <i>Siddhārthīn</i> | | ... |
| 3942 | 763 | 898 | 247 | 15-16 | *840-41 | 54 <i>Raudra</i> | | ... |
| 3943 | 764 | 899 | 248 | 16-17 | 841-42 | 55 <i>Durmati</i> | | 5 Śrāvapa |
| 3944 | 765 | 900 | 249 | 17-18 | 842-43 | 56 <i>Dundabhi</i> | | ... |
| 3945 | 766 | 901 | 250 | 18-19 | 843-44 | 57 <i>Rudhirōdgārin</i> | | ... |

‡ See "Remarks," p. 215 above.

XC—Contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Māha-sankranti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 23 Mar. (82) . . . | 4 Wed. | 1 48 0 | 1 Mar. (60) . . . | 3 Tues. | 229-0250 | 3921 |
| 22 Mar. (82) . . . | 5 Thur. | 8 0 9 | 19 Mar. (79) . . . | 2 Mon. | 263-7074 | 3922 |
| 22 Mar. (81) . . . | 6 Fri. | 14 12 18 | 8 Mar. (67) . . . | 6 Fri. | 139-4313 | 3923 |
| 22 Mar. (81) . . . | 9 Sat. | 20 24 27 | 25 Feb. (56) . . . | 3 Tues. | 15-1531 | 3924 |
| 23 Mar. (82) . . . | 2 Mon. | 2 36 36 | 16 Mar. (75) . . . | 2 Mon. | 49-8355 | 3925 |
| 22 Mar. (82) . . . | 3 Tues. | 8 48 45 | 5 Mar. (65) . . . | 0 Sat. | 264-1904 | 3926 |
| 22 Mar. (81) . . . | 4 Wed. | 15 0 54 | 22 Feb. (53) . . . | 4 Wed. | 139-9132 | 3927 |
| 22 Mar. (81) . . . | 5 Thur. | 21 13 3 | 13 Mar. (72) . . . | 3 Tues. | 174-5955 | 3928 |
| 23 Mar. (82) . . . | 0 Sat. | 3 25 12 | 2 Mar. (61) . . . | 0 Sat. | 50-3184 | 3929 |
| 22 Mar. (82) . . . | 1 Sun. | 9 37 21 | 20 Mar. (80) . . . | 6 Fri. | 85-0009 | 3930 |
| 22 Mar. (81) . . . | 2 Mon. | 15 49 30 | 10 Mar. (69) . . . | 4 Wed. | 290-3556 | 3931 |
| 22 Mar. (81) . . . | 3 Tues. | 22 1 39 | 27 Feb. (58) . . . | 1 Sun. | 175-0784 | 3932 |
| 23 Mar. (82) . . . | 5 Thur. | 4 13 48 | 18 Mar. (77) . . . | 0 Sat. | 209-7609 | 3933 |
| 22 Mar. (82) . . . | 6 Fri. | 16 25 57 | 6 Mar. (66) . . . | 4 Wed. | 85-4897 | 3934 |
| 22 Mar. (81) . . . | 0 Sat. | 16 38 6 | 24 Feb. (55) . . . | 2 Mon. | 290-8385 | 3935 |
| 22 Mar. (81) . . . | 1 Sun. | 22 50 15 | 14 Mar. (73) . . . | 0 Sat. | 9995-8889 § | 3936 |
| 23 Mar. (82) . . . | 3 Tues. | 5 2 24 | 4 Mar. (63) . . . | 5 Thur. | 210-2438 | 3937 |
| 22 Mar. (82) . . . | 4 Wed. | 11 14 33 | 22 Mar. (82) . . . | 4 Wed. | 244-9262 | 3938 |
| 22 Mar. (81) . . . | 5 Thur. | 17 26 42 | 11 Mar. (70) . . . | 1 Sun. | 120-6490 | 3939 |
| 22 Mar. (81) . . . | 6 Fri. | 23 38 51 | 28 Feb. (59) . . . | 5 Thur. | 9996-8718 § | 3940 |
| 23 Mar. (82) . . . | 1 Sun. | 5 51 0 | 19 Mar. (78) . . . | 4 Wed. | 31-0542 | 3941 |
| 22 Mar. (82) . . . | 2 Mon. | 12 3 9 | 8 Mar. (68) . . . | 2 Mon. | 245-4090 | 3942 |
| 22 Mar. (81) . . . | 3 Tues. | 18 15 18 | 25 Feb. (56) . . . | 6 Fri. | 121-1319 | 3943 |
| 23 Mar. (82) . . . | 5 Thur. | 0 27 27 | 16 Mar. (75) . . . | 5 Thur. | 155-8143 | 3944 |
| 23 Mar. (82) . . . | 6 Fri. | 6 39 36 | 5 Mar. (64) . . . | 2 Mon. | 31-5972 | 3945 |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | Jovian Sāmvatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3946 | 767 | 902 | 251 | 19-20 | *844-45 | 58 Raktāksha . . . | | 2 Vaiśākha . |
| 3947 | 768 | 903 | 252 | 20-21 | 845-46 | 59 Krōdhana . . . | | ... |
| 3948 | 769 | 904 | 253 | 21-22 | 846-47 | 60 Kabhaya . . . | | 10 Pausa . |
| 3949 | 770 | 905 | 254 | 22-23 | 847-48 | 1 Prabhava . . . | | ... |
| 3950 | 771 | 906 | 255 | 23-24 | *848-49 | 2 Vibhava . . . | | ... |
| 3951 | 772 | 907 | 256 | 24-25 | 849-50 | 3 Śukla . . . | | 7 Āsvina . |
| 3952 | 773 | 908 | 257 | 25-26 | 850-51 | 4 Pramōda . . . | | ... |
| 3953 | 774 | 909 | 258 | 26-27 | 851-52 | 5 Prajāpati . . . | | ... |
| 3954 | 775 | 910 | 259 | 27-28 | *852-53 | 6 Āngirasa . . . | | 3 Jyēṣṭha . |
| 3955 | 776 | 911 | 260 | 28-29 | 853-54 | 7 Śrīmukha . . . | | ... |
| 3956 | 777 | 912 | 261 | 29-30 | 854-55 | 8 Bhāva . . . | | 12 Phālguna . |
| 3957 | 778 | 913 | 262 | 30-31 | 855-56 | 9 Yuvan . . . | | ... |
| 3958 | 779 | 914 | 263 | 31-32 | *856-57 | 10 Dhātṛi . . . | | ... |
| 3959 | 780 | 915 | 264 | 32-33 | 857-58 | 11 Īvara . . . | | 8 Kārttika . |
| 3960 | 781 | 916 | 265 | 33-34 | 858-59 | 12 Babudhānya . . . | | ... |
| 3961 | 782 | 917 | 266 | 34-35 | 859-60 | 13 Pramāthina . . . | | ... |
| 3962 | 783 | 918 | 267 | 35-36 | *860-61 | 14 Vikrama . . . | | 5 Śrāvaṇa . |
| 3963 | 784 | 919 | 268 | 36-37 | 861-62 | 15 Vṛisha . . . | | ... |
| 3964 | 785 | 920 | 269 | 37-38 | 862-63 | 16 Chitrabhāna . . . | | ... |
| 3965 | 786 | 921 | 270 | 38-39 | 863-64 | 17 Sabbhāna . . . | | 2 Vaiśākha . |
| 3966 | 787 | 922 | 271 | 39-40 | *864-65 | 18 Tārana . . . | | ... |
| 3967 | 788 | 923 | 272 | 40-41 | 865-66 | 19 Pārthiva . . . | | 10 Pausa . |
| 3968 | 789 | 924 | 273 | 41-42 | 866-67 | 20 Vyaya . . . | | ... |
| 3969 | 790 | 925 | 274 | 42-43 | 867-68 | 21 Sarvajit . . . | | ... |
| 3970 | 791 | 926 | 275 | 43-44 | *868-69 | 22 Sarvadhārin . . . | | 7 Āsvina . |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-samkrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the <i>tītth</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 22 Mar. (82) . . . | 0 Sat. . . | 12 51 45 | 23 Feb. (54) . . . | 0 Sat. . . | 245-8010 | 3948 |
| 22 Mar. (81) . . . | 1 Sun. . . | 19 3 54 | 13 Mar. (76) . . . | 6 Fri. . . | 280-5743 | 3947 |
| 23 Mar. (82) . . . | 3 Tues. . . | 1 16 3 | 2 Mar. (61) . . . | 3 Tues. . . | 156-2972 | 3948 |
| 23 Mar. (82) . . . | 4 Wed. . . | 7 28 12 | 21 Mar. (80) . . . | 2 Mon. . . | 190-6706 | 3949 |
| 22 Mar. (82) . . . | 5 Thur. . . | 13 40 21 | 0 Mar. (69) . . . | 6 Fri. . . | 66-7024 | 3950 |
| 22 Mar. (81) . . . | 6 Fri. . . | 19 52 30 | 27 Feb. (58) . . . | 4 Wed. . . | 281-0972 | 3951 |
| 23 Mar. (82) . . . | 1 Sun. . . | 2 4 39 | 18 Mar. (77) . . . | 3 Tues. . . | 315-7397 | 3952 |
| 23 Mar. (82) . . . | 2 Mon. . . | 8 16 48 | 7 Mar. (66) . . . | 0 Sat. . . | 191-4624 | 3953 |
| 22 Mar. (82) . . . | 3 Tues. . . | 14 28 57 | 24 Feb. (55) . . . | 4 Wed. . . | 67-1853 | 3954 |
| 22 Mar. (81) . . . | 4 Wed. . . | 20 41 6 | 14 Mar. (73) . . . | 3 Tues. . . | 101-8677 | 3957 |
| 23 Mar. (82) . . . | 6 Fri. . . | 2 53 15 | 4 Mar. (63) . . . | 1 Sun. . . | 316-2225 | 3956 |
| 23 Mar. (82) . . . | 0 Sat. . . | 9 5 24 | 22 Mar. (81) . . . | 6 Fri. . . | 12-2729 | 3957 |
| 22 Mar. (82) . . . | 1 Sun. . . | 15 17 33 | 11 Mar. (71) . . . | 4 Wed. . . | 220-6278 | 3958 |
| 22 Mar. (81) . . . | 2 Mon. . . | 21 29 42 | 28 Feb. (59) . . . | 1 Sun. . . | 102-3506 | 3959 |
| 23 Mar. (82) . . . | 4 Wed. . . | 3 41 51 | 19 Mar. (78) . . . | 0 Sat. . . | 137-0329 | 3960 |
| 23 Mar. (82) . . . | 5 Thur. . . | 9 54 0 | 8 Mar. (67) . . . | 4 Wed. . . | 12-7558 | 3961 |
| 22 Mar. (82) . . . | 6 Fri. . . | 16 6 9 | 26 Feb. (57) . . . | 2 Mon. . . | 227-1107 | 3962 |
| 22 Mar. (81) . . . | 0 Sat. . . | 22 18 18 | 16 Mar. (75) . . . | 1 Sun. . . | 261-7930 | 3963 |
| 23 Mar. (82) . . . | 2 Mon. . . | 4 30 27 | 5 Mar. (64) . . . | 5 Thur. . . | 137-5159 | 3964 |
| 23 Mar. (82) . . . | 3 Tues. . . | 10 42 36 | 22 Feb. (53) . . . | 2 Mon. . . | 13-2387 | 3965 |
| 22 Mar. (82) . . . | 4 Wed. . . | 16 54 45 | 12 Mar. (72) . . . | 1 Sun. . . | 47-9211 | 3966 |
| 22 Mar. (81) . . . | 5 Thur. . . | 23 6 54 | 2 Mar. (61) . . . | 6 Fri. . . | 232-2759 | 3967 |
| 23 Mar. (82) . . . | 0 Sat. . . | 5 19 3 | 21 Mar. (80) . . . | 5 Thur. . . | 296-9584 | 3968 |
| 23 Mar. (82) . . . | 1 Sun. . . | 11 31 12 | 10 Mar. (69) . . . | 2 Mon. . . | 172-6812 | 3969 |
| 22 Mar. (82) . . . | 2 Mon. . . | 17 43 21 | 27 Feb. (58) . . . | 6 Fri. . . | 48-4039 | 3970 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādī Vikrama. | Mēshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3971 | 792 | 927 | 276 | 44-45 | 869-70 | 23 Virōdhin . . . | ... | |
| 3972 | 793 | 928 | 277 | 45-46 | 870-71 | 24 Vikṛita . . . | ... | |
| 3973 | 794 | 929 | 278 | 46-47 | 871-72 | 25 Khara . . . | 3 Jyēṣṭha . | |
| 3974 | 795 | 930 | 279 | 47-48 | *872-73 | 26 Nandana . . . | ... | |
| 3975 | 796 | 931 | 280 | 48-49 | 873-74 | 27 Vijaya . . . | 12 Phālguna . | |
| 3976 | 797 | 932 | 281 | 49-50 | 874-75 | 28 Jaya . . . | ... | |
| 3977 | 798 | 933 | 282 | 50-51 | 875-76 | 29 Manmatha . . . | ... | |
| 3978 | 799 | 934 | 283 | 51-52 | *876-77 | 30 Darmakha . . . | 8 Kārttika . | |
| 3979 | 800 | 935 | 284 | 52-53 | 877-78 | 31 Hēmalamba . . . | ... | |
| 3980 | 801 | 936 | 285 | 53-54 | 878-79 | 32 Vilamba . . . | ... | |
| 3981 | 802 | 937 | 286 | 54-55 | 879-80 | 33 Vikārin . . . | 5 Śrāvaṇa . | |
| 3982 | 803 | 938 | 287 | 55-56 | *880-81 | 34 Śārvasin . . . | ... | |
| 3983 | 804 | 939 | 288 | 56-57 | 881-82 | 35 Plava . . . | ... | |
| 3984 | 805 | 940 | 289 | 57-58 | 882-83 | 36 Śubhakṛit . . . | 1 Chaitra . | |
| 3985 | 806 | 941 | 290 | 58-59 | 883-84 | 37 Śōbhana . . . | ... | |
| 3986 | 807 | 942 | 291 | 59-60 | *884-85 | 38 Krōdhin . . . | 10 Pausa . | |
| 3987 | 808 | 943 | 292 | 60-61 | 885-86 | 39 Viśrāvaṇa . . . | ... | |
| 3988 | 809 | 944 | 293 | 61-62 | 886-87 | 40 Parābhava . . . | ... | |
| 3989 | 810 | 945 | 294 | 62-63 | 887-88 | 41 Plavaṅga . . . | 6 Bhādrapada . | |
| 3990 | 811 | 946 | 295 | 63-64 | *888-89 | 42 Kṛitaka . . . | ... | |
| 3991 | 812 | 947 | 296 | 64-65 | 889-90 | 43 Saṃnya . . . | ... | |
| 3992 | 813 | 948 | 297 | 65-66 | 890-91 | 44 Sādhārana . . . | 3 Jyēṣṭha . | |
| 3993 | 814 | 949 | 298 | 66-67 | 891-92 | 45 Virōdhakṛit . . . | ... | |
| 3994 | 815 | 950 | 299 | 67-68 | *892-93 | 46 Paridhāvin . . . | 11 Māgha . | |
| 3995 | 816 | 951 | 300 | 68-69 | 893-94 | 47 Pramādin . . . | ... | |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---------------------------------------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 22 Mar. (81) | 3 Tues. | 23 55 30 | 17 Mar. (76) | 5 Thur. | 83-0884 | 3971 |
| 23 Mar. (82) | 5 Thur. | 6 7 39 | 7 Mar. (66) | 3 Tues. | 297-4412 | 3972 |
| 23 Mar. (82) | 6 Fri. | 12 19 48 | 24 Feb. (55) | 0 Sat. | 173-1641 | 3973 |
| 22 Mar. (82) | 0 Sat. | 18 31 57 | 14 Mar. (74) | 6 Fri. | 207-8464 | 3974 |
| 23 Mar. (82) | 2 Mon. | 0 44 6 | 3 Mar. (62) | 3 Tues. | 83-5693 | 3975 |
| 23 Mar. (82) | 3 Tues. | 6 56 15 | 22 Mar. (81) | 2 Mon. | 118-2517 | 3976 |
| 23 Mar. (82) | 4 Wed. | 13 8 24 | 12 Mar. (71) | 0 Sat. | 332-6065 | 3977 |
| 22 Mar. (82) | 5 Thur. | 19 20 33 | 29 Feb. (60) | 4 Wed. | 208-3293 | 3978 |
| 23 Mar. (82) | 0 Sat. | 1 32 42 | 19 Mar. (78) | 3 Tues. | 243-0118 | 3979 |
| 23 Mar. (82) | 1 Sun. | 7 44 51 | 8 Mar. (67) | 0 Sat. | 118-7346 | 3980 |
| 23 Mar. (82) | 2 Mon. | 13 57 0 | 26 Feb. (57) | 5 Thur. | 333-0894 | 3981 |
| 22 Mar. (82) | 3 Tues. | 20 9 9 | 16 Mar. (75) | 3 Tues. | 29-1398 | 3982 |
| 23 Mar. (82) | 5 Thur. | 2 21 18 | 5 Mar. (64) | 1 Sun. | 243-4947 | 3983 |
| 23 Mar. (82) | 6 Fri. | 8 33 27 | 22 Feb. (53) | 5 Thur. | 119-2175 | 3984 |
| 23 Mar. (82) | 0 Sat. | 14 45 36 | 13 Mar. (72) | 4 Wed. | 153-8998 | 3985 |
| 22 Mar. (82) | 1 Sun. | 20 57 45 | 1 Mar. (61) | 1 Sun. | 29-6227 | 3986 |
| 23 Mar. (82) | 3 Tues. | 3 9 54 | 20 Mar. (79) | 0 Sat. | 64-3052 | 3987 |
| 23 Mar. (82) | 4 Wed. | 9 22 3 | 10 Mar. (69) | 5 Thur. | 278-6599 | 3988 |
| 23 Mar. (82) | 5 Thur. | 15 34 13 | 27 Feb. (58) | 2 Mon. | 154-3828 | 3989 |
| 22 Mar. (82) | 6 Fri. | 21 46 21 | 17 Mar. (77) | 1 Sun. | 189-0652 | 3990 |
| 23 Mar. (82) | 1 Sun. | 3 58 30 | 6 Mar. (65) | 5 Thur. | 64-7861 | 3991 |
| 23 Mar. (82) | 2 Mon. | 10 10 39 | 24 Feb. (55) | 3 Tues. | 279-1428 | 3992 |
| 23 Mar. (82) | 3 Tues. | 16 22 48 | 15 Mar. (74) | 2 Mon. | 313-8252 | 3993 |
| 22 Mar. (82) | 4 Wed. | 22 34 57 | 3 Mar. (63) | 6 Fri. | 189-5481 | 3994 |
| 23 Mar. (82) | 6 Fri. | 4 47 6 | 22 Mar. (81) | 5 Thur. | 224-2204 | 3995 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adāṭika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitrādi Vikramā. | Māghādi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 3996 | 817 | 952 | 301 | 69-70 | 894-95 | 48 Ānanda | | .. |
| 3997 | 818 | 953 | 302 | 70-71 | 895-96 | 49 Rākshasa | | 8 Kārttika |
| 3998 | 819 | 954 | 303 | 71-72 | *896-97 | 50 Anala | | ... |
| 3999 | 820 | 955 | 304 | 72-73 | 897-98 | 51 Piṅgala | | ... |
| 4000 | 821 | 956 | 305 | 73-74 | 898-99 | 52 Kālayukta | | 5 Śrāvaṇa |
| 4001 | 822 | 957 | 306 | 74-75 | 899-900 | 53 Siddhārthīn | | ... |
| 4002 | 823 | 958 | 307 | 75-76 | *900-01 | 54 Randra | | ... |
| 4003 | 824 | 959 | 308 | 76-77 | 901-02 | 55 Durmati | | 1 Chaitra |
| 4004 | 825 | 960 | 309 | 77-78 | 902-03 | 56 Dandabhi | | ... |
| 4005 | 826 | 961 | 310 | 78-79 | 903-04 | 57 Rudhirōdgārin† | | 10 Pausa |
| 4006 | 827 | 962 | 311 | 79-80 | *904-05 | 58 Raktāksha | 59 Krōḍhaka | ... |
| 4007 | 828 | 963 | 312 | 80-81 | 905-06 | 59 Krōḍhaka | 60 Kāśyapa | ... |
| 4008 | 829 | 964 | 313 | 81-82 | 906-07 | 60 Kāśyapa | 1 Prabhava | 6 Bhādrapada |
| 4009 | 830 | 965 | 314 | 82-83 | 907-08 | 1 Prabhava | 2 Viḍhava | ... |
| 4010 | 831 | 966 | 315 | 83-84 | *908-09 | 2 Viḍhava | 3 Śukla | ... |
| 4011 | 832 | 967 | 316 | 84-85 | 909-10 | 3 Śukla | 4 Pramōda | 3 Jyēṣṭha |
| 4012 | 833 | 968 | 317 | 85-86 | 910-11 | 4 Pramōda | 5 Prajāpati | ... |
| 4013 | 834 | 969 | 318 | 86-87 | 911-12 | 5 Prajāpati | 6 Aṅgīras | 11 Māgha |
| 4014 | 835 | 970 | 319 | 87-88 | *912-13 | 6 Aṅgīras | 7 Śrīmukha | ... |
| 4015 | 836 | 971 | 320 | 88-89 | 913-14 | 7 Śrīmukha | 8 Bhāva | ... |
| 4016 | 837 | 972 | 321 | 89-90 | 914-15 | 8 Bhāva | 9 Yuvan | 8 Kārttika |
| 4017 | 838 | 973 | 322 | 90-91 | 915-16 | 9 Yuvan | 10 Dhātṛi | ... |
| 4018 | 839 | 974 | 323 | 91-92 | *916-17 | 10 Dhātṛi | 11 Īvara | ... |
| 4019 | 840 | 975 | 324 | 92-93 | 917-18 | 11 Īvara | 12 Bahudhānya | 4 Ashāḍha |
| 4020 | 841 | 976 | 325 | 93-94 | 918-19 | 12 Bahudhānya | 13 Pramāthīn | ... |

† 58 Raktāksha was suppressed in the north. By southern reckoning there was no suppression, and there has been none since. By *Brahma-Siddhanta* "true" reckoning K.Y. 4006, A.D. 904-05, was 58 Raktāksha, 59 Krōḍhaka being suppressed in the north.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the fifth). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 23 Mar. (82) . . . | 0 Sat. . . | 10 59 15 | 11 Mar. (70) . . . | 2 Mon. . . | 99-9533 | 3996 |
| 23 Mar. (82) . . . | 1 Sun. . . | 17 11 24 | 1 Mar. (60) . . . | 0 Sat. . . | 314-3081 | 3997 |
| 22 Mar. (82) . . . | 2 Mon. . . | 23 23 33 | 18 Mar. (78) . . . | 5 Thur. . . | 10-3584 | 3998 |
| 23 Mar. (82) . . . | 4 Wed. . . | 5 35 42 | 8 Mar. (67) . . . | 3 Tues. . . | 224-7133 | 3999 |
| 23 Mar. (82) . . . | 5 Thur. . . | 11 47 51 | 25 Feb. (56) . . . | 0 Sat. . . | 100-4382 | 4000 |
| 23 Mar. (82) . . . | 6 Fri. . . | 18 0 0 | 16 Mar. (75) . . . | 0 Fri. . . | 135-1186 | 4001 |
| 23 Mar. (83) . . . | 1 Sun. . . | 0 12 9 | 4 Mar. (64) . . . | 3 Tues. . . | 10-8415 | 4002 |
| 23 Mar. (82) . . . | 2 Mon. . . | 6 24 18 | 22 Feb. (53) . . . | 1 Sun. . . | 225-4963 | 4003 |
| 23 Mar. (82) . . . | 3 Tues. . . | 12 36 27 | 13 Mar. (72) . . . | 0 Sat. . . | 259-8786 | 4004 |
| 23 Mar. (82) . . . | 4 Wed. . . | 18 48 36 | 2 Mar. (61) . . . | 4 Wed. . . | 135-6015 | 4005 |
| 23 Mar. (83) . . . | 6 Fri. . . | 1 0 45 | 20 Mar. (80) . . . | 3 Tues. . . | 170-2839 | 4006 |
| 23 Mar. (82) . . . | 0 Sat. . . | 7 12 54 | 9 Mar. (68) . . . | 0 Sat. . . | 46-0007 | 4007 |
| 23 Mar. (82) . . . | 1 Sun. . . | 13 25 3 | 27 Feb. (58) . . . | 5 Thur. . . | 260-3616 | 4008 |
| 23 Mar. (82) . . . | 2 Mon. . . | 19 37 12 | 18 Mar. (77) . . . | 4 Wed. . . | 295-0440 | 4009 |
| 23 Mar. (83) . . . | 4 Wed. . . | 1 49 21 | 6 Mar. (66) . . . | 1 Sun. . . | 170-7668 | 4010 |
| 23 Mar. (82) . . . | 5 Thur. . . | 8 1 30 | 23 Feb. (54) . . . | 5 Thur. . . | 46-4896 | 4011 |
| 23 Mar. (82) . . . | 6 Fri. . . | 14 13 39 | 14 Mar. (78) . . . | 4 Wed. . . | 81-1720 | 4012 |
| 23 Mar. (82) . . . | 0 Sat. . . | 20 25 48 | 4 Mar. (63) . . . | 2 Mon. . . | 295-5269 | 4013 |
| 23 Mar. (83) . . . | 2 Mon. . . | 2 37 57 | 22 Mar. (82) . . . | 1 Sun. . . | 330-2092 | 4014 |
| 23 Mar. (82) . . . | 3 Tues. . . | 8 50 6 | 11 Mar. (70) . . . | 5 Thur. . . | 205-9321 | 4015 |
| 23 Mar. (82) . . . | 4 Wed. . . | 15 2 17 | 28 Feb. (59) . . . | 2 Mon. . . | 81-6549 | 4016 |
| 23 Mar. (82) . . . | 5 Thur. . . | 21 14 24 | 19 Mar. (78) . . . | 1 Sun. . . | 116-3373 | 4017 |
| 23 Mar. (83) . . . | 0 Sat. . . | 3 26 33 | 8 Mar. (68) . . . | 6 Fri. . . | 330-6921 | 4018 |
| 23 Mar. (82) . . . | 1 Sun. . . | 9 38 42 | 25 Feb. (56) . . . | 3 Tues. . . | 206-4150 | 4019 |
| 23 Mar. (82) . . . | 2 Mon. . . | 15 50 51 | 16 Mar. (75) . . . | 2 Mon. . . | 341-6274 | 4020 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|-------------------------------|---------|---------|--------------------|------------------|---|
| Kali. | Śaka. | Chaitrāñi Vikrama. | Mēshāñi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSARA. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4021 | 842 | 977 | 326 | 94-95 | 919-20 | 13 Pramāthin | 14 Vikrama | ... |
| 4022 | 843 | 978 | 327 | 95-96 | *920-21 | 14 Vikrama | 15 Vṛisha | 1 Chaitra |
| 4023 | 844 | 979 | 328 | 96-97 | 921-22 | 15 Vṛisha | 16 Chitrabhānu | ... |
| 4024 | 845 | 980 | 329 | 97-98 | 922-23 | 16 Chitrabhānu | 17 Subhānu | 9 Mārgaśīra |
| 4025 | 846 | 981 | 330 | 98-99 | 923-24 | 17 Subhānu | 18 Tārāṇa | ... |
| 4026 | 847 | 982 | 331 | 99-100 | *924-25 | 18 Tārāṇa | 19 Pārthiva | ... |
| 4027 | 848 | 983 | 332 | 100-01 | 925-26 | 19 Pārthiva | 20 Vyaya | 6 Bhādrapada |
| 4028 | 849 | 984 | 333 | 101-02 | 926-27 | 20 Vyaya | 21 Sarvajit | ... |
| 4029 | 850 | 985 | 334 | 102-03 | 927-28 | 21 Sarvajit | 22 Sarvadhārin | ... |
| 4030 | 851 | 986 | 335 | 103-04 | *928-29 | 22 Sarvadhārin | 23 Virōdhin | 2 Vaiśākha |
| 4031 | 852 | 987 | 336 | 104-05 | 929-30 | 23 Virōdhin | 24 Vikṛita | ... |
| 4032 | 853 | 988 | 337 | 105-06 | 930-31 | 24 Vikṛita | 25 Khara | 11 Māgha |
| 4033 | 854 | 989 | 338 | 106-07 | 931-32 | 25 Khara | 26 Nandana | ... |
| 4034 | 855 | 990 | 339 | 107-08 | *932-33 | 26 Nandana | 27 Vijaya | ... |
| 4035 | 856 | 991 | 340 | 108-09 | 933-34 | 27 Vijaya | 28 Jaya | 7 Āśvina |
| 4036 | 857 | 992 | 341 | 109-10 | 934-35 | 28 Jaya | 29 Maumatha | ... |
| 4037 | 858 | 993 | 342 | 110-11 | 935-36 | 29 Maumatha | 30 Durmukha | ... |
| 4038 | 859 | 994 | 343 | 111-12 | *936-37 | 30 Durmukha | 31 Hēmalamba | 4 Āshāḍha |
| 4039 | 860 | 995 | 344 | 112-13 | 937-38 | 31 Hēmalamba | 32 Vilamba | ... |
| 4040 | 861 | 996 | 345 | 113-14 | 938-39 | 32 Vilamba | 33 Vikārin | ... |
| 4041 | 862 | 997 | 346 | 114-15 | 939-40 | 33 Vikārin | 34 Śārvarin | 1 Chaitra |
| 4042 | 863 | 998 | 347 | 115-16 | *940-41 | 34 Śārvarin | 35 Plava | ... |
| 4043 | 864 | 999 | 348 | 116-17 | 941-42 | 35 Plava | 36 Śubhakṛit | 9 Mārgaśīra |
| 4044 | 865 | 1000 | 349 | 117-18 | 942-43 | 36 Śubhakṛit | 37 Śobhana | ... |
| 4045 | 866 | 1001 | 350 | 118-19 | 943-44 | 37 Śobhana | 38 Krōdhin | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Māhā-saṅkrānti. | Day and month, A.D. | Week-day. | n (here = t , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 23 Mar. (82) | 3 Tues. | 22 3 0 | 5 Mar. (64) | 6 Fri. | 116-8202 | 4021 |
| 23 Mar. (83) | 5 Thur. | 4 15 9 | 23 Feb. (54) | 4 Wed. | 331-1750 | 4022 |
| 23 Mar. (82) | 6 Fri. | 10 27 18 | 12 Mar. (71) | 2 Mon. | 27-2254 | 4023 |
| 23 Mar. (82) | 0 Sat. | 16 39 27 | 2 Mar. (61) | 0 Sat. | 241-5802 | 4024 |
| 23 Mar. (82) | 1 Sun. | 22 51 36 | 21 Mar. (80) | 6 Fri. | 276-2626 | 4025 |
| 23 Mar. (83) | 3 Tues. | 5 3 45 | 9 Mar. (69) | 3 Tues. | 151-9855 | 4026 |
| 23 Mar. (82) | 4 Wed. | 11 15 54 | 26 Feb. (57) | 0 Sat. | 27-7084 | 4027 |
| 23 Mar. (82) | 5 Thur. | 17 28 3 | 17 Mar. (76) | 6 Fri. | 62-3907 | 4028 |
| 23 Mar. (82) | 6 Fri. | 23 40 12 | 7 Mar. (86) | 4 Wed. | 276-7455 | 4029 |
| 23 Mar. (83) | 1 Sun. | 5 52 21 | 24 Feb. (55) | 1 Sun. | 152-4684 | 4030 |
| 23 Mar. (82) | 2 Mon. | 12 4 30 | 14 Mar. (73) | 0 Sat. | 187-1507 | 4031 |
| 23 Mar. (82) | 3 Tues. | 18 16 39 | 3 Mar. (62) | 4 Wed. | 62-8736 | 4032 |
| 24 Mar. (83) | 5 Thur. | 0 28 48 | 22 Mar. (81) | 3 Tues. | 97-5560 | 4033 |
| 23 Mar. (83) | 6 Fri. | 6 40 57 | 11 Mar. (71) | 1 Sun. | 311-9109 | 4034 |
| 23 Mar. (82) | 0 Sat. | 12 53 6 | 28 Feb. (59) | 5 Thur. | 187-6336 | 4035 |
| 23 Mar. (82) | 1 Sun. | 19 5 15 | 19 Mar. (78) | 4 Wed. | 222-3161 | 4036 |
| 24 Mar. (83) | 3 Tues. | 1 17 24 | 8 Mar. (67) | 1 Sun. | 98-0389 | 4037 |
| 23 Mar. (83) | 4 Wed. | 7 29 33 | 26 Feb. (57) | 6 Fri. | 312-3938 | 4038 |
| 23 Mar. (82) | 5 Thur. | 13 41 42 | 15 Mar. (74) | 4 Wed. | 8-4441 | 4039 |
| 23 Mar. (82) | 6 Fri. | 19 53 51 | 5 Mar. (64) | 2 Mon. | 222-7090 | 4040 |
| 24 Mar. (83) | 1 Sun. | 2 6 0 | 22 Feb. (53) | 6 Fri. | 98-5218 | 4041 |
| 23 Mar. (83) | 2 Mon. | 8 18 9 | 12 Mar. (72) | 5 Thur. | 133-2042 | 4042 |
| 23 Mar. (82) | 3 Tues. | 14 30 18 | 1 Mar. (60) | 2 Mon. | 8-9270 | 4043 |
| 23 Mar. (82) | 4 Wed. | 20 42 27 | 20 Mar. (79) | 1 Sun. | 43-6064 | 4044 |
| 24 Mar. (83) | 6 Fri. | 2 54 36 | 10 Mar. (69) | 6 Fri. | 257-9643 | 4045 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Mēshādi solar year in Bangal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4046 | 867 | 1002 | 351 | 119-20 | *944-45 | 38 Krōdhin . | 39 Viśvāvasu . | 6 Bhādrapada . |
| 4047 | 868 | 1003 | 352 | 120-21 | 945-46 | 39 Viśvāvasu . | 40 Parābhava . | ... |
| 4048 | 869 | 1004 | 353 | 121-22 | 946-47 | 40 Parābhava . | 41 Plavaṅga . | ... |
| 4049 | 870 | 1005 | 354 | 122-23 | 947-48 | 41 Plavaṅga . | 42 Kilaka . | 2 Vaiśākha . |
| 4050 | 871 | 1006 | 355 | 123-24 | *948-49 | 42 Kilaka . | 43 Saumya . | ... |
| 4051 | 872 | 1007 | 356 | 124-25 | 949-50 | 43 Saumya . | 44 Sādhārāṇa . | 11 Māgha . |
| 4052 | 873 | 1008 | 357 | 125-26 | 950-51 | 44 Sādhārāṇa . | 45 Virōdhakṛt . | ... |
| 4053 | 874 | 1009 | 358 | 126-27 | 951-52 | 45 Virōdhakṛt . | 46 Paridhāvin . | ... |
| 4054 | 875 | 1010 | 359 | 127-28 | *952-53 | 46 Paridhāvin . | 47 Pramādin . | 7 Āśvina . |
| 4055 | 876 | 1011 | 360 | 128-29 | 953-54 | 47 Pramādin . | 48 Ānanda . | ... |
| 4056 | 877 | 1012 | 361 | 129-30 | 954-55 | 48 Ānanda . | 49 Rākshasa . | ... |
| 4057 | 878 | 1013 | 362 | 130-31 | 955-56 | 49 Rākshasa . | 50 Ānala . | 4 Āshāḍha . |
| 4058 | 879 | 1014 | 363 | 131-32 | *956-57 | 50 Ānala . | 51 Pīṅgala . | ... |
| 4059 | 880 | 1015 | 364 | 132-33 | 957-58 | 51 Pīṅgala . | 52 Kālayukta . | 12 Phālguna . |
| 4060 | 881 | 1016 | 365 | 133-34 | 958-59 | 52 Kālayukta . | 53 Siddhārthin . | ... |
| 4061 | 882 | 1017 | 366 | 134-35 | 959-60 | 53 Siddhārthin . | 54 Raudra . | ... |
| 4062 | 883 | 1018 | 367 | 135-36 | *960-61 | 54 Raudra . | 55 Dharma . | 9 Mārgaśīra . |
| 4063 | 884 | 1019 | 368 | 136-37 | 961-62 | 55 Dharma . | 56 Dundabhi . | ... |
| 4064 | 885 | 1020 | 369 | 137-38 | 962-63 | 56 Dundabhi . | 57 Budhirōdgārin . | ... |
| 4065 | 886 | 1021 | 370 | 138-39 | 963-64 | 57 Budhirōdgārin . | 58 Raktāksha . | 5 Śrāvaṇa . |
| 4066 | 887 | 1022 | 371 | 139-40 | *964-65 | 58 Raktāksha . | 59 Krōdhana . | ... |
| 4067 | 888 | 1023 | 372 | 140-41 | 965-66 | 59 Krōdhana . | 60 Kahaya . | ... |
| 4068 | 889 | 1024 | 373 | 141-42 | 966-67 | 60 Kahaya . | 1 Prabhava . | 2 Vaiśākha . |
| 4069 | 890 | 1025 | 374 | 142-43 | 967-68 | 1 Prabhava . | 2 Vibhava . | ... |
| 4070 | 891 | 1026 | 375 | 143-44 | *968-69 | 2 Vibhava . | 3 Śukla . | 10 Pausa . |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | | Kali. |
|------------------------|-----------|--------------------------------------|---|-----------|--|------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha- sankrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here $-d$, the index of the <i>tithi</i>). | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 | |
| | | H. M. S. | | | | | |
| 23 Mar. (83) | 0 Sat. | 9 6 45 | 27 Feb. (58) | 3 Tues. | 133-6871 | 4046 | |
| 23 Mar. (82) | 1 Sun. | 15 18 54 | 17 Mar. (76) | 2 Mon. | 168-3695 | 4047 | |
| 23 Mar. (82) | 2 Mon. | 21 31 3 | 6 Mar. (65) | 6 Fri. | 44-0923 | 4048 | |
| 24 Mar. (83) | 4 Wed. | 3 43 12 | 24 Feb. (55) | 4 Wed. | 258-4471 | 4049 | |
| 23 Mar. (83) | 5 Thur. | 9 55 21 | 14 Mar. (74) | 3 Tues. | 293-1295 | 4050 | |
| 23 Mar. (82) | 6 Fri. | 16 7 30 | 3 Mar. (62) | 0 Sat. | 168-8524 | 4051 | |
| 23 Mar. (82) | 0 Sat. | 22 19 39 | 22 Mar. (81) | 6 Fri. | 203-5348 | 4052 | |
| 24 Mar. (83) | 2 Mon. | 4 31 48 | 11 Mar. (70) | 3 Tues. | 79-2576 | 4053 | |
| 23 Mar. (83) | 3 Tues. | 10 43 57 | 29 Feb. (60) | 1 Sun. | 293-6125 | 4054 | |
| 23 Mar. (82) | 4 Wed. | 16 56 6 | 19 Mar. (78) | 0 Sat. | 328-2949 | 4055 | |
| 23 Mar. (82) | 5 Thur. | 23 8 15 | 8 Mar. (67) | 4 Wed. | 204-0176 | 4056 | |
| 24 Mar. (83) | 0 Sat. | 5 26 24 | 25 Feb. (56) | 1 Sun. | 79-7405 | 4057 | |
| 23 Mar. (83) | 1 Sun. | 11 32 33 | 15 Mar. (75) | 0 Sat. | 114-4229 | 4058 | |
| 23 Mar. (82) | 2 Mon. | 17 44 42 | 5 Mar. (64) | 5 Thur. | 328-7778 | 4059 | |
| 23 Mar. (82) | 3 Tues. | 23 56 51 | 23 Mar. (82) | 1 Sun. | 24-8281 | 4060 | |
| 24 Mar. (83) | 5 Thur. | 6 9 0 | 13 Mar. (72) | 1 Sun. | 239-1830 | 4061 | |
| 23 Mar. (83) | 6 Fri. | 12 21 9 | 1 Mar. (61) | 5 Thur. | 114-9058 | 4062 | |
| 23 Mar. (82) | 0 Sat. | 18 33 18 | 20 Mar. (79) | 4 Wed. | 140-5881 | 4063 | |
| 24 Mar. (83) | 2 Mon. | 0 45 27 | 9 Mar. (68) | 1 Sun. | 25-3110 | 4064 | |
| 24 Mar. (83) | 3 Tues. | 6 57 36 | 27 Feb. (58) | 6 Fri. | 239-6059 | 4065 | |
| 23 Mar. (83) | 4 Wed. | 13 9 45 | 17 Mar. (77) | 5 Thur. | 274-3483 | 4066 | |
| 23 Mar. (82) | 5 Thur. | 19 21 54 | 6 Mar. (65) | 2 Mon. | 150-0710 | 4067 | |
| 24 Mar. (83) | 0 Sat. | 1 34 3 | 23 Feb. (54) | 6 Fri. | 25-7939 | 4068 | |
| 24 Mar. (83) | 1 Sun. | 7 46 12 | 14 Mar. (73) | 5 Thur. | 80-4763 | 4069 | |
| 23 Mar. (83) | 2 Mon. | 13 58 21 | 3 Mar. (63) | 3 Tues. | 274-8311 | 4070 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|---------|----------------------|----------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | Jovian Sām̐vatsara. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4071 | 892 | 1027 | 376 | 144-45 | 969-70 | 3 Śukla . . . | 4 Pramōda . . . | ... |
| 4072 | 893 | 1028 | 377 | 145-46 | 970-71 | 4 Pramōda . . . | 5 Prajāpati . . . | ... |
| 4073 | 894 | 1029 | 378 | 146-47 | 971-72 | 5 Prajāpati . . . | 6 Aṅgīras . . . | 7 Āśvina . . . |
| 4074 | 895 | 1030 | 379 | 147-48 | *972-73 | 6 Aṅgīras . . . | 7 Śrinakha . . . | ... |
| 4075 | 896 | 1031 | 380 | 148-49 | 973-74 | 7 Śrinakha . . . | 8 Bhāva . . . | ... |
| 4076 | 897 | 1032 | 381 | 149-50 | 974-75 | 8 Bhāva . . . | 9 Yavan . . . | 4 Āśādhā . . . |
| 4077 | 898 | 1033 | 382 | 150-51 | 975-76 | 9 Yavan . . . | 10 Dhātṛi . . . | ... |
| 4078 | 899 | 1034 | 383 | 151-52 | *976-77 | 10 Dhātṛi . . . | 11 Iivara . . . | 12 Phālguna . . . |
| 4079 | 900 | 1035 | 384 | 152-53 | 977-78 | 11 Iivara . . . | 12 Bahubhānya . . . | ... |
| 4080 | 901 | 1036 | 385 | 153-54 | 978-79 | 12 Bahubhānya . . . | 13 Pramāthīn . . . | ... |
| 4081 | 902 | 1037 | 386 | 154-55 | 979-80 | 13 Pramāthīn . . . | 14 Vikrama . . . | 9 Mārgaśīra . . . |
| 4082 | 903 | 1038 | 387 | 155-56 | *980-81 | 14 Vikrama . . . | 15 Vṛiṣa . . . | ... |
| 4083 | 904 | 1039 | 388 | 156-57 | 981-82 | 15 Vṛiṣa . . . | 16 Chitrabhāna . . . | ... |
| 4084 | 905 | 1040 | 389 | 157-58 | 982-83 | 16 Chitrabhāna . . . | 17 Subhāna . . . | 5 Śrāvapa . . . |
| 4085 | 906 | 1041 | 390 | 158-59 | 983-84 | 17 Subhāna . . . | 18 Tāraṇa . . . | ... |
| 4086 | 907 | 1042 | 391 | 159-60 | *984-85 | 18 Tāraṇa . . . | 19 Pārthiva . . . | ... |
| 4087 | 908 | 1043 | 392 | 160-61 | 985-86 | 19 Pārthiva . . . | 20 Vyaya . . . | 2 Vaiśākha . . . |
| 4088 | 909 | 1044 | 393 | 161-62 | 986-87 | 20 Vyaya . . . | 21 Sarvaṛṇi . . . | ... |
| 4089 | 910 | 1045 | 394 | 162-63 | 987-88 | 21 Sarvaṛṇi . . . | 22 Sarvadhārīn . . . | 10 Pausa . . . |
| 4090 | 911 | 1046 | 395 | 163-64 | *988-89 | 22 Sarvadhārīn . . . | 23 Virāḍīn . . . | ... |
| 4091 | 912 | 1047 | 396 | 164-65 | 989-90 | 23 Virāḍīn . . . | 24 Vikṛita † . . . | ... |
| 4092 | 913 | 1048 | 397 | 165-66 | 990-91 | 24 Vikṛita . . . | 25 Nandana . . . | 7 Āśvina . . . |
| 4093 | 914 | 1049 | 398 | 166-67 | 991-92 | 25 Khara . . . | 26 Vījaya . . . | ... |
| 4094 | 915 | 1050 | 399 | 167-68 | *992-93 | 26 Nandana . . . | 27 Jaya . . . | ... |
| 4095 | 916 | 1051 | 400 | 168-69 | 993-94 | 27 Vījaya . . . | 28 Maumathā . . . | 4 Jyēṣṭha . . . |

† 25 Khara was suppressed in the north by the *Brahma-Siddhanta* system, whether calculated by "true" or mean reckoning.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēgha-sukrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 23 Mar. (82) | 3 Tues. | 20 10 30 | 22 Mar. (81) | 2 Mon. | 309-5135 | 4071 |
| 24 Mar. (83) | 5 Thur. | 2 22 39 | 11 Mar. (70) | 6 Fri. | 185-2364 | 4072 |
| 24 Mar. (83) | 6 Fri. | 8 34 43 | 28 Feb. (59) | 3 Tues. | 60-9593 | 4073 |
| 23 Mar. (83) | 0 Sat. | 14 46 57 | 18 Mar. (78) | 2 Mon. | 95-6416 | 4074 |
| 23 Mar. (82) | 1 Sun. | 20 59 6 | 8 Mar. (67) | 0 Sat. | 309-0964 | 4075 |
| 24 Mar. (83) | 3 Tues. | 3 11 15 | 25 Feb. (56) | 4 Wed. | 185-7193 | 4076 |
| 24 Mar. (83) | 4 Wed. | 9 23 24 | 16 Mar. (75) | 3 Tues. | 220-4016 | 4077 |
| 23 Mar. (83) | 5 Thur. | 15 35 33 | 4 Mar. (64) | 0 Sat. | 96-1245 | 4078 |
| 23 Mar. (82) | 6 Fri. | 21 47 42 | 23 Mar. (82) | 6 Fri. | 130-8069 | 4079 |
| 24 Mar. (83) | 1 Sun. | 3 59 51 | 12 Mar. (71) | 3 Tues. | 6-5298 | 4080 |
| 24 Mar. (83) | 2 Mon. | 10 12 0 | 2 Mar. (61) | 1 Sun. | 220-8845 | 4081 |
| 23 Mar. (83) | 3 Tues. | 16 24 9 | 20 Mar. (80) | 0 Sat. | 255-5669 | 4082 |
| 23 Mar. (82) | 4 Wed. | 22 36 18 | 9 Mar. (68) | 4 Wed. | 131-2898 | 4083 |
| 24 Mar. (83) | 6 Fri. | 4 48 27 | 26 Feb. (57) | 1 Sun. | 7-0127 | 4084 |
| 24 Mar. (83) | 0 Sat. | 11 0 36 | 17 Mar. (76) | 0 Sat. | 41-6950 | 4085 |
| 23 Mar. (83) | 1 Sun. | 17 12 45 | 6 Mar. (66) | 5 Thur. | 256-0499 | 4086 |
| 23 Mar. (82) | 2 Mon. | 23 24 54 | 23 Feb. (54) | 2 Mon. | 131-7727 | 4087 |
| 24 Mar. (83) | 4 Wed. | 5 37 3 | 14 Mar. (73) | 1 Sun. | 166-4550 | 4088 |
| 24 Mar. (83) | 5 Thur. | 11 49 12 | 3 Mar. (62) | 5 Thur. | 42-1779 | 4089 |
| 23 Mar. (83) | 6 Fri. | 18 1 21 | 21 Mar. (81) | 4 Wed. | 76-8603 | 4090 |
| 24 Mar. (83) | 1 Sun. | 0 13 30 | 11 Mar. (70) | 2 Mon. | 291-2152 | 4091 |
| 24 Mar. (83) | 2 Mon. | 6 25 39 | 28 Feb. (59) | 6 Fri. | 166-3398 | 4092 |
| 24 Mar. (83) | 3 Tues. | 12 37 48 | 19 Mar. (78) | 5 Thur. | 201-6204 | 4093 |
| 23 Mar. (83) | 4 Wed. | 18 49 57 | 7 Mar. (67) | 2 Mon. | 77-3432 | 4094 |
| 24 Mar. (83) | 6 Fri. | 1 2 6 | 25 Feb. (56) | 0 Sat. | 291-6980 | 4095 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|--------------------------------|---------|----------|--------------------|------------------|---|
| Kali. | Saka. | Chakrārdi Vikrama. | Mēshārdi solar year in Bengal. | Kollam. | A.D. | JOYIAN SĀMYATSARA. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4096 | 917 | 1052 | 401 | 169-70 | 994-95 | 28 Jaya . . | 30 Daraukha . | ... |
| 4097 | 918 | 1053 | 402 | 170-71 | 995-96 | 29 Mamatha . | 31 Hēmalamba . | 12 Phālguna . |
| 4098 | 919 | 1054 | 403 | 171-72 | *996-97 | 30 Daraukha . | 32 Vilamba . | ... |
| 4099 | 920 | 1055 | 404 | 172-73 | 997-98 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4100 | 921 | 1056 | 405 | 173-74 | 998-99 | 32 Vilamba . | 34 Śārvarin . | 8 Kārttika . |
| 4101 | 922 | 1057 | 406 | 174-75 | 999-1000 | 33 Vikārin . | 35 Plava . | ... |
| 4102 | 923 | 1058 | 407 | 175-76 | *1000-01 | 34 Śārvarin . | 36 Śubhakṛt . | ... |
| 4103 | 924 | 1059 | 408 | 176-77 | 1001-02 | 35 Plava . . | 37 Śobhana . | 5 Śrāvapa . |
| 4104 | 925 | 1060 | 409 | 177-78 | 1002-03 | 36 Śubhakṛt . | 38 Krōdhin . | ... |
| 4105 | 926 | 1061 | 410 | 178-79 | 1003-04 | 37 Śobhana . | 39 Viśvāvasu . | ... |
| 4106 | 927 | 1062 | 411 | 179-80 | *1004-05 | 38 Krōdhin . | 40 Parābhava . | 1 Chaitra . |
| 4107 | 928 | 1063 | 412 | 180-81 | 1005-06 | 39 Viśvāvasu . | 41 Plavaṅga . | ... |
| 4108 | 929 | 1064 | 413 | 181-82 | 1006-07 | 40 Parābhava . | 42 Kilaka . | 10 Pausa . |
| 4109 | 930 | 1065 | 414 | 182-83 | 1007-08 | 41 Plavaṅga . | 43 Saumya . | ... |
| 4110 | 931 | 1066 | 415 | 183-84 | *1008-09 | 42 Kilaka . | 44 Śādhārāga . | ... |
| 4111 | 932 | 1067 | 416 | 184-85 | 1009-10 | 43 Saumya . | 45 Virōdhakṛt . | 7 Āśvina† . |
| 4112 | 933 | 1068 | 417 | 185-86 | 1010-11 | 44 Śādhārāga . | 46 Paridhāvin . | ... |
| 4113 | 934 | 1069 | 418 | 186-87 | 1011-12 | 45 Virōdhakṛt . | 47 Pramādin . | ... |
| 4114 | 935 | 1070 | 419 | 187-88 | *1012-13 | 46 Paridhāvin . | 48 Ānanda . | 3 Jyēṣṭha . |
| 4115 | 936 | 1071 | 420 | 188-89 | 1013-14 | 47 Pramādin . | 49 Rākhaṣa . | ... |
| 4116 | 937 | 1072 | 421 | 189-90 | 1014-15 | 48 Ānanda . | 50 Anala . | 12 Phālguna . |
| 4117 | 938 | 1073 | 422 | 190-91 | 1015-16 | 49 Rākhaṣa . | 51 Piṅgala . | ... |
| 4118 | 939 | 1074 | 423 | 191-92 | *1016-17 | 50 Anala . | 52 Kālayukta . | ... |
| 4119 | 940 | 1075 | 424 | 192-93 | 1017-18 | 51 Piṅgala . | 53 Siddhārthin . | 8 Kārttika . |
| 4120 | 941 | 1076 | 425 | 193-94 | 1018-19 | 52 Kālayukta . | 54 Randra . | ... |

† See "Remarks," p. 523 above.

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankranti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tittā). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 24 Mar. (83) . . . | 0 Sat. . . | 7 14 15 | 16 Mar. (75) . . . | 6 Fri. . . | 326-3804 | 4006 |
| 24 Mar. (83) . . . | 1 Sun. . . | 13 26 24 | 5 Mar. (64) . . . | 3 Tues. . . | 202-1033 | 4007 |
| 23 Mar. (83) . . . | 2 Mon. . . | 10 38 33 | 23 Mar. (83) . . . | 2 Mon. . . | 236-7856 | 4008 |
| 24 Mar. (83) . . . | 4 Wed. . . | 1 50 42 | 12 Mar. (71) . . . | 6 Fri. . . | 112-5085 | 4009 |
| 24 Mar. (83) . . . | 5 Thur. . . | 8 2 51 | 2 Mar. (61) . . . | 4 Wed. . . | 326-8633 | 4100 |
| 24 Mar. (83) . . . | 6 Fri. . . | 14 15 0 | 20 Mar. (79) . . . | 2 Mon. . . | 22-9136 | 4101 |
| 23 Mar. (83) . . . | 0 Sat. . . | 20 27 0 | 9 Mar. (69) . . . | 0 Sat. . . | 237-2685 | 4102 |
| 24 Mar. (83) . . . | 2 Mon. . . | 2 39 18 | 26 Feb. (57) . . . | 4 Wed. . . | 112-9914 | 4103 |
| 24 Mar. (83) . . . | 3 Tues. . . | 8 51 27 | 17 Mar. (76) . . . | 3 Tues. . . | 147-6737 | 4104 |
| 24 Mar. (83) . . . | 4 Wed. . . | 15 3 36 | 6 Mar. (65) . . . | 0 Sat. . . | 23-3966 | 4105 |
| 23 Mar. (83) . . . | 5 Thur. . . | 21 15 45 | 24 Feb. (55) . . . | 5 Thur. . . | 237-7514 | 4106 |
| 24 Mar. (83) . . . | 0 Sat. . . | 3 27 54 | 14 Mar. (72) . . . | 4 Wed. . . | 272-4338 | 4107 |
| 24 Mar. (83) . . . | 1 Sun. . . | 9 40 3 | 3 Mar. (62) . . . | 1 Sun. . . | 148-1566 | 4108 |
| 24 Mar. (83) . . . | 2 Mon. . . | 15 52 12 | 22 Mar. (81) . . . | 0 Sat. . . | 182-8390 | 4109 |
| 23 Mar. (83) . . . | 3 Tues. . . | 22 4 21 | 10 Mar. (70) . . . | 4 Wed. . . | 58-5618 | 4110 |
| 24 Mar. (83) . . . | 5 Thur. . . | 4 16 30 | 28 Feb. (59) . . . | 2 Mon. . . | 272-9167 | 4111 |
| 24 Mar. (83) . . . | 6 Fri. . . | 10 28 39 | 19 Mar. (78) . . . | 1 Sun. . . | 307-5991 | 4112 |
| 24 Mar. (83) . . . | 0 Sat. . . | 16 40 48 | 8 Mar. (67) . . . | 5 Thur. . . | 183-3219 | 4113 |
| 23 Mar. (83) . . . | 1 Sun. . . | 22 52 57 | 25 Feb. (56) . . . | 2 Mon. . . | 59-0447 | 4114 |
| 24 Mar. (83) . . . | 3 Tues. . . | 5 5 6 | 15 Mar. (74) . . . | 1 Sun. . . | 93-7270 | 4115 |
| 24 Mar. (83) . . . | 4 Wed. . . | 11 17 15 | 5 Mar. (64) . . . | 6 Fri. . . | 308-0820 | 4116 |
| 24 Mar. (83) . . . | 5 Thur. . . | 17 29 24 | 23 Mar. (82) . . . | 4 Wed. . . | 4-1323 | 4117 |
| 23 Mar. (83) . . . | 6 Fri. . . | 23 41 33 | 12 Mar. (72) . . . | 2 Mon. . . | 218-4872 | 4118 |
| 24 Mar. (83) . . . | 1 Sun. . . | 5 53 42 | 1 Mar. (60) . . . | 6 Fri. . . | 94-2100 | 4119 |
| 24 Mar. (83) . . . | 2 Mon. . . | 12 5 51 | 20 Mar. (79) . . . | 5 Thur. . . | 128-8924 | 4120 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (adhika) lunar month. |
|------------------|-------|----------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chalukya Vikrama. | Mishaka solar year in Dergal. | Kollam. | A.D. | JOVIAN SAMVATARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4121 | 942 | 1077 | 429 | 194-95 | 1019-20 | 53 Siddhārtha | 55 Durnati | ... |
| 4122 | 943 | 1078 | 427 | 195-96 | *1020-21 | 54 Randra | 56 Dandabhi | 5 Śaivaga |
| 4123 | 944 | 1079 | 428 | 196-97 | 1021-22 | 55 Durnati | 57 Rudhīrōdgārin | ... |
| 4124 | 945 | 1080 | 429 | 197-98 | 1022-23 | 56 Dandabhi | 58 Raktāksha | ... |
| 4125 | 946 | 1081 | 430 | 198-99 | 1023-24 | 57 Rudhīrōdgārin | 59 Krōdhama | 1 Chaitra |
| 4126 | 947 | 1082 | 431 | 199-200 | *1024-25 | 58 Raktāksha | 60 Kshaya | ... |
| 4127 | 948 | 1083 | 432 | 200-01 | 1025-26 | 59 Krōdhama | 1 Prabhava | 10 Pausa |
| 4128 | 949 | 1084 | 433 | 201-02 | 1026-27 | 60 Kshaya | 2 Vibhava | ... |
| 4129 | 950 | 1085 | 434 | 202-03 | 1027-28 | 1 Prabhava | 3 Śakla | ... |
| 4130 | 951 | 1086 | 435 | 203-04 | *1028-29 | 2 Vibhava | 4 Pramōda | 6 Bhādrapada |
| 4131 | 952 | 1087 | 436 | 204-05 | 1029-30 | 3 Śakla | 5 Prajāpati | ... |
| 4132 | 953 | 1088 | 437 | 205-06 | 1030-31 | 4 Pramōda | 6 Aṅgīra | ... |
| 4133 | 954 | 1089 | 438 | 206-07 | 1031-32 | 5 Prajāpati | 7 Śrīmukha | 5 Jyēṣṭha |
| 4134 | 955 | 1090 | 439 | 207-08 | *1032-33 | 6 Aṅgīra | 8 Bhāva | ... |
| 4135 | 956 | 1091 | 440 | 208-09 | 1033-34 | 7 Śrīmukha | 9 Yuvan | 11 Māgha |
| 4136 | 957 | 1092 | 441 | 209-10 | 1034-35 | 8 Bhāva | 10 Dhātṛi | ... |
| 4137 | 958 | 1093 | 442 | 210-11 | 1035-36 | 9 Yuvan | 11 Īvara | ... |
| 4138 | 959 | 1094 | 443 | 211-12 | *1036-37 | 10 Dhātṛi | 12 Bahubhānya | 8 Kārtika |
| 4139 | 960 | 1095 | 444 | 212-13 | 1037-38 | 11 Īvara | 13 Pramāthān | ... |
| 4140 | 961 | 1096 | 445 | 213-14 | 1038-39 | 12 Bahubhānya | 14 Vikrama | ... |
| 4141 | 962 | 1097 | 446 | 214-15 | 1039-40 | 13 Pramāthān | 15 Vṛisha | 4 Āshāḍha |
| 4142 | 963 | 1098 | 447 | 215-16 | *1040-41 | 14 Vikrama | 16 Chitrabhānu | ... |
| 4143 | 964 | 1099 | 448 | 216-17 | 1041-42 | 15 Vṛisha | 17 Subhānu | ... |
| 4144 | 965 | 1100 | 449 | 217-18 | 1042-43 | 16 Chitrabhānu | 18 Tāmapa | 1 Chaitra |
| 4145 | 966 | 1101 | 450 | 218-19 | 1043-44 | 17 Subhānu | 19 Pārthiva | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankranti. | Day and month, A.D. | Week-day. | <i>a</i> (here— <i>t</i> , the index of the <i>MMA</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 24 Mar. (83) . . . | 3 Tues. . . | 18 18 0 | 9 Mar. (68) . . . | 2 Mon. . . | 4-6131 | 4121 |
| 24 Mar. (84) . . . | 5 Thur. . . | 0 30 0 | 27 Feb. (58) . . . | 0 Sat. . . | 218-9701 | 4122 |
| 24 Mar. (83) . . . | 6 Fri. . . | 6 42 18 | 17 Mar. (70) . . . | 6 Fri. . . | 253-6525 | 4123 |
| 24 Mar. (83) . . . | 0 Sat. . . | 12 54 27 | 6 Mar. (65) . . . | 3 Tues. . . | 129-3753 | 4124 |
| 24 Mar. (83) . . . | 1 Sun. . . | 19 6 36 | 23 Feb. (54) . . . | 0 Sat. . . | 5-0081 | 4125 |
| 24 Mar. (84) . . . | 3 Tues. . . | 1 18 45 | 13 Mar. (73) . . . | 6 Fri. . . | 39-7806 | 4126 |
| 24 Mar. (83) . . . | 4 Wed. . . | 7 30 54 | 3 Mar. (62) . . . | 4 Wed. . . | 254-1354 | 4127 |
| 24 Mar. (83) . . . | 5 Thur. . . | 13 43 3 | 22 Mar. (81) . . . | 3 Tues. . . | 288-8177 | 4128 |
| 24 Mar. (83) . . . | 6 Fri. . . | 19 55 12 | 11 Mar. (70) . . . | 0 Sat. . . | 164-5406 | 4129 |
| 24 Mar. (84) . . . | 1 Sun. . . | 2 7 21 | 28 Feb. (59) . . . | 4 Wed. . . | 40-2635 | 4130 |
| 24 Mar. (83) . . . | 2 Mon. . . | 8 19 30 | 18 Mar. (77) . . . | 3 Tues. . . | 74-9458 | 4131 |
| 24 Mar. (83) . . . | 3 Tues. . . | 14 31 39 | 8 Mar. (67) . . . | 1 Sun. . . | 250-3006 | 4132 |
| 24 Mar. (83) . . . | 4 Wed. . . | 20 43 48 | 25 Feb. (56) . . . | 5 Thur. . . | 105-0235 | 4133 |
| 24 Mar. (84) . . . | 6 Fri. . . | 2 55 57 | 15 Mar. (75) . . . | 4 Wed. . . | 109-7059 | 4134 |
| 24 Mar. (83) . . . | 0 Sat. . . | 9 8 6 | 4 Mar. (63) . . . | 1 Sun. . . | 75-4287 | 4135 |
| 24 Mar. (83) . . . | 1 Sun. . . | 15 20 15 | 23 Mar. (82) . . . | 0 Sat. . . | 110-1111 | 4136 |
| 24 Mar. (83) . . . | 2 Mon. . . | 21 32 24 | 13 Mar. (72) . . . | 5 Thur. . . | 724-4060 | 4137 |
| 24 Mar. (84) . . . | 4 Wed. . . | 3 44 33 | 1 Mar. (61) . . . | 2 Mon. . . | 200-1888 | 4138 |
| 24 Mar. (83) . . . | 5 Thur. . . | 9 56 42 | 20 Mar. (79) . . . | 1 Sun. . . | 224-8712 | 4139 |
| 24 Mar. (83) . . . | 6 Fri. . . | 16 8 51 | 9 Mar. (68) . . . | 5 Thur. . . | 110-5940 | 4140 |
| 24 Mar. (83) . . . | 0 Sat. . . | 22 21 0 | 27 Feb. (58) . . . | 3 Tues. . . | 324-9480 | 4141 |
| 24 Mar. (84) . . . | 2 Mon. . . | 4 33 9 | 16 Mar. (76) . . . | 1 Sun. . . | 20-9202 | 4142 |
| 24 Mar. (85) . . . | 3 Tues. . . | 10 45 18 | 6 Mar. (65) . . . | 6 Fri. . . | 295-3541 | 4143 |
| 24 Mar. (83) . . . | 4 Wed. . . | 16 57 27 | 23 Feb. (54) . . . | 3 Tues. . . | 111-0793 | 4144 |
| 24 Mar. (83) . . . | 5 Thur. . . | 23 9 36 | 14 Mar. (73) . . . | 2 Mon. . . | 145-7523 | 4145 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|---------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitraidi Vikrama. | Māhādī solar year, in Bengal. | Kollāṁ. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4146 | 967 | 1102 | 451 | 219-20 | *1044-45 | 18 Tārapa . | 20 Vyaya . | 9 Mārgaśīra . |
| 4147 | 968 | 1103 | 452 | 220-21 | 1045-46 | 19 Pārthiva . | 21 Sarvajit . | ... |
| 4148 | 969 | 1104 | 453 | 221-22 | 1046-47 | 20 Vyaya . | 22 Sarvadhārin . | ... |
| 4149 | 970 | 1105 | 454 | 222-23 | 1047-48 | 21 Sarvajit . | 23 Virōdhin . | 6 Bhādrapada . |
| 4150 | 971 | 1106 | 455 | 223-24 | *1048-49 | 22 Sarvadhārin . | 24 Vikṛita . | ... |
| 4151 | 972 | 1107 | 456 | 224-25 | 1049-50 | 23 Virōdhin . | 25 Khara . | ... |
| 4152 | 973 | 1108 | 457 | 225-26 | 1050-51 | 24 Vikṛita . | 26 Nandana . | 3 Jyēṣṭha . |
| 4153 | 974 | 1109 | 458 | 226-27 | 1051-52 | 25 Khara . | 27 Vijaya . | ... |
| 4154 | 975 | 1110 | 459 | 227-28 | *1052-53 | 26 Nandana . | 28 Jaya . | 11 Māgha . |
| 4155 | 976 | 1111 | 460 | 228-29 | 1053-54 | 27 Vijaya . | 29 Manmatha . | ... |
| 4156 | 977 | 1112 | 461 | 229-30 | 1054-55 | 28 Jaya . | 30 Durmukha . | ... |
| 4157 | 978 | 1113 | 462 | 230-31 | 1055-56 | 29 Manmatha . | 31 Hēmalamba . | 8 Kārtika . |
| 4158 | 979 | 1114 | 463 | 231-32 | *1056-57 | 30 Durmukha . | 32 Vilamba . | ... |
| 4159 | 980 | 1115 | 464 | 232-33 | 1057-58 | 31 Hēmalamba . | 33 Vikārin . | ... |
| 4160 | 981 | 1116 | 465 | 233-34 | 1058-59 | 32 Vilamba . | 34 Sārvara . | 4 Āśvīn . |
| 4161 | 982 | 1117 | 466 | 234-35 | 1059-60 | 33 Vikārin . | 35 Plava . | ... |
| 4162 | 983 | 1118 | 467 | 235-36 | *1060-61 | 34 Sārvara . | 36 Subhakar . | ... |
| 4163 | 984 | 1119 | 468 | 236-37 | 1061-62 | 35 Plava . | 37 Sōbhana . | 1 Chaitra . |
| 4164 | 985 | 1120 | 469 | 237-38 | 1062-63 | 36 Subhakar . | 38 Krōdhin . | ... |
| 4165 | 986 | 1121 | 470 | 238-39 | 1063-64 | 37 Sōbhana . | 39 Viśvānana . | 9 Mārgaśīra . |
| 4166 | 987 | 1122 | 471 | 239-40 | *1064-65 | 38 Krōdhin . | 40 Parābhava . | ... |
| 4167 | 988 | 1123 | 472 | 240-41 | 1065-66 | 39 Viśvānana . | 41 Plavaṅga . | ... |
| 4168 | 989 | 1124 | 473 | 241-42 | 1066-67 | 40 Parābhava . | 42 Kīlaka . | 6 Bhādrapada . |
| 4169 | 990 | 1125 | 474 | 242-43 | 1067-68 | 41 Plavaṅga . | 43 Samnya . | ... |
| 4170 | 991 | 1126 | 475 | 243-44 | *1068-69 | 42 Kīlaka . | 44 Sādhārana . | ... |

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sukrānti. | Day and month, A.D. | Week-day. | <i>n</i> (here = <i>i</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 24 Mar. (84) . . . | 0 Sat. . . | 5 21 45 | 2 Mar. (62) . . . | 6 Fri. . . | 21-4821 | 4146 |
| 24 Mar. (83) . . . | 1 Sun. . . | 11 33 54 | 21 Mar. (80) . . . | 5 Thur. . . | 56-1645 | 4147 |
| 24 Mar. (83) . . . | 2 Mon. . . | 17 46 3 | 11 Mar. (70) . . . | 3 Tues. . . | 270-5194 | 4148 |
| 24 Mar. (83) . . . | 3 Tues. . . | 23 58 12 | 28 Feb. (59) . . . | 0 Sat. . . | 146-2422 | 4149 |
| 24 Mar. (84) . . . | 5 Thur. . . | 6 10 21 | 18 Mar. (78) . . . | 6 Fri. . . | 180-9246 | 4150 |
| 24 Mar. (83) . . . | 6 Fri. . . | 12 22 30 | 7 Mar. (66) . . . | 3 Tues. . . | 56-6475 | 4151 |
| 24 Mar. (83) . . . | 0 Sat. . . | 18 34 39 | 25 Feb. (58) . . . | 1 Sun. . . | 271-0023 | 4152 |
| 25 Mar. (84) . . . | 2 Mon. . . | 0 46 48 | 16 Mar. (75) . . . | 0 Sat. . . | 305-6846 | 4153 |
| 24 Mar. (84) . . . | 3 Tues. . . | 6 58 57 | 4 Mar. (64) . . . | 4 Wed. . . | 181-4075 | 4154 |
| 24 Mar. (83) . . . | 4 Wed. . . | 13 11 6 | 23 Mar. (82) . . . | 3 Tues. . . | 216-0899 | 4155 |
| 24 Mar. (83) . . . | 5 Thur. . . | 19 23 15 | 12 Mar. (71) . . . | 0 Sat. . . | 91-8127 | 4156 |
| 25 Mar. (84) . . . | 0 Sat. . . | 1 35 24 | 2 Mar. (61) . . . | 5 Thur. . . | 306-1675 | 4157 |
| 24 Mar. (84) . . . | 1 Sun. . . | 7 47 33 | 10 Mar. (79) . . . | 3 Tues. . . | 2-2180 | 4158 |
| 24 Mar. (83) . . . | 2 Mon. . . | 13 59 42 | 9 Mar. (68) . . . | 1 Sun. . . | 216-5728 | 4159 |
| 24 Mar. (83) . . . | 3 Tues. . . | 20 11 51 | 26 Feb. (57) . . . | 5 Thur. . . | 92-2956 | 4160 |
| 25 Mar. (84) . . . | 5 Thur. . . | 2 24 0 | 17 Mar. (76) . . . | 4 Wed. . . | 126-9780 | 4161 |
| 24 Mar. (84) . . . | 6 Fri. . . | 8 36 9 | 5 Mar. (65) . . . | 1 Sun. . . | 2-7009 | 4162 |
| 24 Mar. (83) . . . | 0 Sat. . . | 14 48 18 | 23 Feb. (54) . . . | 6 Fri. . . | 217-0556 | 4163 |
| 24 Mar. (83) . . . | 1 Sun. . . | 21 0 27 | 14 Mar. (73) . . . | 5 Thur. . . | 251-7380 | 4164 |
| 25 Mar. (84) . . . | 3 Tues. . . | 3 12 36 | 3 Mar. (62) . . . | 2 Mon. . . | 127-4609 | 4165 |
| 24 Mar. (84) . . . | 4 Wed. . . | 9 24 45 | 21 Mar. (81) . . . | 1 Sun. . . | 162-1433 | 4166 |
| 24 Mar. (83) . . . | 5 Thur. . . | 15 36 54 | 10 Mar. (69) . . . | 5 Thur. . . | 37-8861 | 4167 |
| 24 Mar. (83) . . . | 6 Fri. . . | 21 49 3 | 28 Feb. (59) . . . | 3 Tues. . . | 252-2210 | 4168 |
| 25 Mar. (84) . . . | 1 Sun. . . | 4 1 12 | 19 Mar. (78) . . . | 2 Mon. . . | 286-9051 | 4169 |
| 24 Mar. (84) . . . | 2 Mon. . . | 10 13 21 | 7 Mar. (67) . . . | 6 Fri. . . | 162-6262 | 4170 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|---|
| Kal. | Saka. | Chaitradī Vikrama. | Mēhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4171 | 992 | 1127 | 476 | 244-45 | 1069-70 | 43 Saumya . | 45 Virōdhakṛit . | 2 Vaisākha . |
| 4172 | 993 | 1128 | 477 | 245-46 | 1070-71 | 44 Sūdhārāga . | 46 Pacidhāvin . | ... |
| 4173 | 994 | 1129 | 478 | 246-47 | 1071-72 | 45 Virōdhakṛit . | 47 Pramādin . | 11 Māgha . |
| 4174 | 995 | 1130 | 479 | 247-48 | *1072-73 | 46 Pacidhāvin . | 48 Ānanda . | ... |
| 4175 | 996 | 1131 | 480 | 248-49 | 1073-74 | 47 Pramādin . | 49 Rākshasa . | ... |
| 4176 | 997 | 1132 | 481 | 249-50 | 1074-75 | 48 Ānanda . | 50 Anala † . | 7 Āśvina . |
| 4177 | 998 | 1133 | 482 | 250-51 | 1075-76 | 49 Rākshasa . | 52 Kālayukta . | ... |
| 4178 | 999 | 1134 | 483 | 251-52 | *1076-77 | 50 Anala . | 53 Siddhārthīn . | ... |
| 4179 | 1000 | 1135 | 484 | 252-53 | 1077-78 | 51 Pīngala . | 54 Raudra . | 4 Āshādha . |
| 4180 | 1001 | 1136 | 485 | 253-54 | 1078-79 | 52 Kālayukta . | 55 Durdattī . | ... |
| 4181 | 1002 | 1137 | 486 | 254-55 | 1079-80 | 53 Siddhārthīn . | 56 Dundubhī . | 12 Phālguna . |
| 4182 | 1003 | 1138 | 487 | 255-56 | *1080-81 | 54 Raudra . | 57 Rudhīrōdgāvin . | ... |
| 4183 | 1004 | 1139 | 488 | 256-57 | 1081-82 | 55 Durdattī . | 58 Raktāksha . | ... |
| 4184 | 1005 | 1140 | 489 | 257-58 | 1082-83 | 56 Dundubhī . | 59 Krōḍhana . | 9 Mārgaśīra . |
| 4185 | 1006 | 1141 | 490 | 258-59 | 1083-84 | 57 Rudhīrōdgāvin . | 60 Kahaya . | ... |
| 4186 | 1007 | 1142 | 491 | 259-60 | *1084-85 | 58 Raktāksha . | 1 Prabhava . | ... |
| 4187 | 1008 | 1143 | 492 | 260-61 | 1085-86 | 59 Krōḍhana . | 2 Vibhava . | 6 Bhādrapada . |
| 4188 | 1009 | 1144 | 493 | 261-62 | 1086-87 | 60 Kahaya . | 3 Śukla . | ... |
| 4189 | 1010 | 1145 | 494 | 262-63 | 1087-88 | 1 Prabhava . | 4 Pramōda . | ... |
| 4190 | 1011 | 1146 | 495 | 263-64 | *1088-89 | 2 Vibhava . | 5 Prajāpati . | 2 Vaisākha . |
| 4191 | 1012 | 1147 | 496 | 264-65 | 1089-90 | 3 Śukla . | 6 Aṅgīras . | ... |
| 4192 | 1013 | 1148 | 497 | 265-66 | 1090-91 | 4 Pramōda . | 7 Śrīmukha . | 11 Māgha . |
| 4193 | 1014 | 1149 | 498 | 266-67 | 1091-92 | 5 Prajāpati . | 8 Bhūva . | ... |
| 4194 | 1015 | 1150 | 499 | 267-68 | *1092-93 | 6 Aṅgīras . | 9 Yuvan . | ... |
| 4195 | 1016 | 1151 | 500 | 268-69 | 1093-94 | 7 Śrīmukha . | 10 Dhātṛī . | 7 Āśvina . |

† 51 Pīngala was suppressed in the north, according to both "true" and mean systems, in *Brahma-Siddhanta* reckoning.

XC—contd.

| COMMENCEMENT OF THE | | | | | | Kali. |
|---------------------|-------------|-------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saukrānti. | Day and month, A.D. | Week-day. | <i>s</i> (here = <i>t</i> , the index of the <i>t/tā</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 24 Mar. (83) . . . | 3 Tues. . . | 16 25 30 | 24 Feb. (55) . . . | 3 Tues. . . | 283490 | 4171 |
| 24 Mar. (83) . . . | 4 Wed. . . | 22 37 29 | 15 Mar. (74) . . . | 2 Mon. . . | 790214 | 4172 |
| 25 Mar. (84) . . . | 6 Fri. . . | 4 49 48 | 5 Mar. (64) . . . | 0 Sat. . . | 2873803 | 4173 |
| 24 Mar. (84) . . . | 0 Sat. . . | 11 1 57 | 23 Mar. (83) . . . | 6 Fri. . . | 5220696 | 4174 |
| 24 Mar. (83) . . . | 1 Sun. . . | 17 14 6 | 12 Mar. (71) . . . | 3 Tues. . . | 1977915 | 4175 |
| 24 Mar. (83) . . . | 2 Mon. . . | 23 26 15 | 1 Mar. (60) . . . | 0 Sat. . . | 735143 | 4176 |
| 25 Mar. (84) . . . | 4 Wed. . . | 5 38 24 | 20 Mar. (79) . . . | 6 Fri. . . | 1081967 | 4177 |
| 24 Mar. (84) . . . | 5 Thur. . . | 11 50 23 | 9 Mar. (69) . . . | 4 Wed. . . | 3225515 | 4178 |
| 24 Mar. (83) . . . | 6 Fri. . . | 18 2 42 | 26 Feb. (67) . . . | 1 Sun. . . | 1982744 | 4179 |
| 25 Mar. (84) . . . | 1 Sun. . . | 0 14 51 | 17 Mar. (75) . . . | 0 Sat. . . | 2329568 | 4180 |
| 25 Mar. (84) . . . | 2 Mon. . . | 6 27 0 | 6 Mar. (65) . . . | 4 Wed. . . | 1086796 | 4181 |
| 24 Mar. (84) . . . | 3 Tues. . . | 12 39 9 | 24 Mar. (84) . . . | 3 Tues. . . | 1433620 | 4182 |
| 24 Mar. (83) . . . | 4 Wed. . . | 18 51 18 | 13 Mar. (72) . . . | 0 Sat. . . | 190848 | 4183 |
| 25 Mar. (84) . . . | 6 Fri. . . | 1 3 27 | 3 Mar. (62) . . . | 5 Thur. . . | 2334367 | 4184 |
| 25 Mar. (84) . . . | 0 Sat. . . | 7 15 36 | 22 Mar. (81) . . . | 4 Wed. . . | 2681220 | 4185 |
| 24 Mar. (84) . . . | 1 Sun. . . | 13 27 45 | 10 Mar. (70) . . . | 1 Sun. . . | 1438449 | 4186 |
| 24 Mar. (83) . . . | 2 Mon. . . | 19 39 54 | 27 Feb. (58) . . . | 5 Thur. . . | 195678 | 4187 |
| 25 Mar. (84) . . . | 4 Wed. . . | 1 52 3 | 18 Mar. (77) . . . | 4 Wed. . . | 542501 | 4188 |
| 25 Mar. (84) . . . | 5 Thur. . . | 8 4 12 | 8 Mar. (67) . . . | 2 Mon. . . | 2686050 | 4189 |
| 24 Mar. (84) . . . | 6 Fri. . . | 14 16 21 | 25 Feb. (56) . . . | 6 Fri. . . | 1443278 | 4190 |
| 24 Mar. (83) . . . | 0 Sat. . . | 20 28 30 | 15 Mar. (74) . . . | 5 Thur. . . | 1790102 | 4191 |
| 25 Mar. (84) . . . | 2 Mon. . . | 2 40 39 | 4 Mar. (63) . . . | 2 Mon. . . | 547330 | 4192 |
| 25 Mar. (84) . . . | 3 Tues. . . | 8 52 48 | 23 Mar. (82) . . . | 1 Sun. . . | 894154 | 4193 |
| 24 Mar. (84) . . . | 4 Wed. . . | 15 4 57 | 12 Mar. (72) . . . | 6 Fri. . . | 2027705 | 4194 |
| 24 Mar. (83) . . . | 5 Thur. . . | 21 17 6 | 1 Mar. (60) . . . | 3 Tues. . . | 1764030 | 4195 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|--------------------|-------------------------------|---------|-----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Mēshadi solar year in Bengal. | Kollam. | A.D. | JOVIAN SĀMVATSARA. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4196 | 1017 | 1152 | 501 | 269-70 | 1094-95 | 8 Bhāva . . | 11 Lāvara . . | ... |
| 4197 | 1018 | 1153 | 502 | 270-71 | 1095-96 | 9 Yavan . . | 12 Bahudhānya . . | ... |
| 4198 | 1019 | 1154 | 503 | 271-72 | *1096-97 | 10 Dhātṛi . . | 13 Pramādin . . | 4 Āshādha . . |
| 4199 | 1020 | 1155 | 504 | 272-73 | 1097-98 | 11 Lāvara . . | 14 Vikrama . . | ... |
| 4200 | 1021 | 1156 | 505 | 273-74 | 1098-99 | 12 Bahudhānya . . | 15 Vṛsha . . | 12 Phālguna . . |
| 4201 | 1022 | 1157 | 506 | 274-75 | 1099-1100 | 13 Pramādin . . | 16 Chitrabhānu . . | ... |
| 4202 | 1023 | 1158 | 507 | 275-76 | *1100-01 | 14 Vikrama . . | 17 Subhānu . . | ... |
| 4203 | 1024 | 1159 | 508 | 276-77 | 1101-02 | 15 Vṛsha . . | 18 Tārpa . . | 9 Mārgaśīra . . |
| 4204 | 1025 | 1160 | 509 | 277-78 | 1102-03 | 16 Chitrabhānu . . | 19 Pārthiva . . | ... |
| 4205 | 1026 | 1161 | 510 | 278-79 | 1103-04 | 17 Subhānu . . | 20 Vyāya . . | ... |
| 4206 | 1027 | 1162 | 511 | 279-80 | *1104-05 | 18 Tārpa . . | 21 Sarvajit . . | 5 Śrāvana . . |
| 4207 | 1028 | 1163 | 512 | 280-81 | 1105-06 | 19 Pārthiva . . | 22 Sarvadhārin . . | ... |
| 4208 | 1029 | 1164 | 513 | 281-82 | 1106-07 | 20 Vyāya . . | 23 Virōdhin . . | ... |
| 4209 | 1030 | 1165 | 514 | 282-83 | 1107-08 | 21 Sarvajit . . | 24 Vikṛta . . | 2 Vaiśākha . . |
| 4210 | 1031 | 1166 | 515 | 283-84 | *1108-09 | 22 Sarvadhārin . . | 25 Khara . . | ... |
| 4211 | 1032 | 1167 | 516 | 284-85 | 1109-10 | 23 Virōdhin . . | 26 Nandana . . | 10 Pausa . . |
| 4212 | 1033 | 1168 | 517 | 285-86 | 1110-11 | 24 Vikṛta . . | 27 Vijaya . . | ... |
| 4213 | 1034 | 1169 | 518 | 286-87 | 1111-12 | 25 Khara . . | 28 Jaya . . | ... |
| 4214 | 1035 | 1170 | 519 | 287-88 | *1112-13 | 26 Nandana . . | 29 Mammatha . . | 7 Āśvina . . |
| 4215 | 1036 | 1171 | 520 | 288-89 | 1113-14 | 27 Vijaya . . | 30 Durmukha . . | ... |
| 4216 | 1037 | 1172 | 521 | 289-90 | 1114-15 | 28 Jaya . . | 31 Hēmalamba . . | ... |
| 4217 | 1038 | 1173 | 522 | 290-91 | 1115-16 | 29 Mammatha . . | 32 Vīlamba . . | 3 Jyēsthā . . |
| 4218 | 1039 | 1174 | 523 | 291-92 | *1116-17 | 30 Durmukha . . | 33 Vikārin . . | ... |
| 4219 | 1040 | 1175 | 524 | 292-93 | 1117-18 | 31 Hēmalamba . . | 34 Śārvarin . . | 12 Phālguna . . |
| 4220 | 1041 | 1176 | 525 | 293-94 | 1118-19 | 32 Vīlamba . . | 35 Phava . . | ... |

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---------------------------------------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sankranti. | Day and month, A.D. | Week-day. | a (here = t, the index of the tithi). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 25 Mar. (84) . . . | 0 Sat. . . | 3 29 15 | 20 Mar. (79) . . . | 2 Mon. . . | 214-7755 | 4196 |
| 25 Mar. (84) . . . | 1 Sun. . . | 9 41 24 | 9 Mar. (68) . . . | 6 Fri. . . | 89-8983 | 4197 |
| 24 Mar. (84) . . . | 2 Mon. . . | 15 53 33 | 27 Feb. (58) . . . | 4 Wed. . . | 304-2531 | 4198 |
| 24 Mar. (83) . . . | 3 Tues. . . | 22 5 42 | 16 Mar. (75) . . . | 2 Mon. . . | 0-3035 | 4199 |
| 25 Mar. (84) . . . | 5 Thur. . . | 4 17 51 | 6 Mar. (65) . . . | 0 Sat. . . | 214-6584 | 4200 |
| 25 Mar. (84) . . . | 6 Fri. . . | 10 30 0 | 25 Mar. (84) . . . | 6 Fri. . . | 249-3408 | 4201 |
| 24 Mar. (84) . . . | 0 Sat. . . | 16 42 9 | 13 Mar. (78) . . . | 3 Tues. . . | 125-0637 | 4202 |
| 24 Mar. (83) . . . | 1 Sun. . . | 22 54 18 | 2 Mar. (61) . . . | 0 Sat. . . | 0-7865 | 4203 |
| 25 Mar. (84) . . . | 3 Tues. . . | 5 6 27 | 21 Mar. (80) . . . | 6 Fri. . . | 35-4639 | 4204 |
| 25 Mar. (84) . . . | 4 Wed. . . | 11 18 36 | 11 Mar. (70) . . . | 4 Wed. . . | 249-8237 | 4205 |
| 24 Mar. (84) . . . | 5 Thur. . . | 17 30 45 | 28 Feb. (59) . . . | 1 Sun. . . | 125-5466 | 4206 |
| 24 Mar. (83) . . . | 6 Fri. . . | 23 42 54 | 18 Mar. (77) . . . | 0 Sat. . . | 160-2289 | 4207 |
| 25 Mar. (84) . . . | 1 Sun. . . | 5 55 3 | 7 Mar. (66) . . . | 4 Wed. . . | 35-9518 | 4208 |
| 25 Mar. (84) . . . | 2 Mon. . . | 12 7 12 | 25 Feb. (56) . . . | 2 Mon. . . | 250-3096 | 4209 |
| 24 Mar. (84) . . . | 3 Tues. . . | 18 19 21 | 15 Mar. (75) . . . | 1 Sun. . . | 284-9889 | 4210 |
| 25 Mar. (84) . . . | 5 Thur. . . | 0 31 30 | 4 Mar. (63) . . . | 5 Thur. . . | 160-7118 | 4211 |
| 25 Mar. (84) . . . | 6 Fri. . . | 6 43 39 | 23 Mar. (82) . . . | 4 Wed. . . | 195-3942 | 4212 |
| 25 Mar. (84) . . . | 0 Sat. . . | 12 55 48 | 12 Mar. (71) . . . | 1 Sun. . . | 71-1171 | 4213 |
| 24 Mar. (84) . . . | 1 Sun. . . | 19 7 57 | 1 Mar. (61) . . . | 6 Fri. . . | 285-4718 | 4214 |
| 25 Mar. (84) . . . | 3 Tues. . . | 1 26 6 | 20 Mar. (79) . . . | 5 Thur. . . | 320-1543 | 4215 |
| 25 Mar. (84) . . . | 4 Wed. . . | 7 32 15 | 9 Mar. (68) . . . | 2 Mon. . . | 195-8771 | 4216 |
| 25 Mar. (84) . . . | 5 Thur. . . | 13 44 24 | 26 Feb. (57) . . . | 6 Fri. . . | 71-5999 | 4217 |
| 24 Mar. (84) . . . | 6 Fri. . . | 19 56 33 | 16 Mar. (76) . . . | 5 Thur. . . | 166-2823 | 4218 |
| 25 Mar. (84) . . . | 1 Sun. . . | 2 8 42 | 6 Mar. (65) . . . | 0 Tues. . . | 320-6372 | 4219 |
| 25 Mar. (84) . . . | 2 Mon. . . | 8 20 51 | 24 Mar. (83) . . . | 1 Sun. . . | 16-6876 | 4220 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4221 | 1042 | 1177 | 526 | 294-95 | 1119-20 | 33 Vikārin . | 36 Śubhakṛit . | ... |
| 4222 | 1043 | 1178 | 527 | 295-96 | *1120-21 | 34 Śārvaria . | 37 Śōbhana . | 8 Kārttika . |
| 4223 | 1044 | 1179 | 528 | 296-97 | 1121-22 | 35 Plava . | 38 Krōdhin . | ... |
| 4224 | 1045 | 1180 | 529 | 297-98 | 1122-23 | 36 Śubhakṛit . | 39 Viśvāvasu . | ... |
| 4225 | 1046 | 1181 | 530 | 298-99 | 1123-24 | 37 Śōbhana . | 40 Parābhava . | 5 Srāvaṇa . |
| 4226 | 1047 | 1182 | 531 | 299-300 | *1124-25 | 38 Krōdhin . | 41 Plavaṅga . | ... |
| 4227 | 1048 | 1183 | 532 | 300-01 | 1125-26 | 39 Viśvāvasu . | 42 Kṛlaka . | ... |
| 4228 | 1049 | 1184 | 533 | 301-02 | 1126-27 | 40 Parābhava . | 43 Saumya . | 2 Vaiśākha . |
| 4229 | 1050 | 1185 | 534 | 302-03 | 1127-28 | 41 Plavaṅga . | 44 Sādhārāṇa . | ... |
| 4230 | 1051 | 1186 | 535 | 303-04 | *1128-29 | 42 Kṛlaka . | 45 Virōdhakṛit . | 10 Pausa . |
| 4231 | 1052 | 1187 | 536 | 304-05 | 1129-30 | 43 Saumya . | 46 Paridhāvin . | ... |
| 4232 | 1053 | 1188 | 537 | 305-06 | 1130-31 | 44 Sādhārāṇa . | 47 Pramādin . | ... |
| 4233 | 1054 | 1189 | 538 | 306-07 | 1131-32 | 45 Virōdhakṛit . | 48 Ānanda . | 7 Āśvina . |
| 4234 | 1055 | 1190 | 539 | 307-08 | *1132-33 | 46 Paridhāvin . | 49 Rākshaṇa . | ... |
| 4235 | 1056 | 1191 | 540 | 308-09 | 1133-34 | 47 Pramādin . | 50 Ānala . | ... |
| 4236 | 1057 | 1192 | 541 | 309-10 | 1134-35 | 48 Ānanda . | 51 Piṅgala . | 3 Jyēṣṭha . |
| 4237 | 1058 | 1193 | 542 | 310-11 | 1135-36 | 49 Rākshaṇa . | 52 Kālayukta . | ... |
| 4238 | 1059 | 1194 | 543 | 311-12 | *1136-37 | 50 Ānala . | 53 Siddhārthin . | 12 Phālguna . |
| 4239 | 1060 | 1195 | 544 | 312-13 | 1137-38 | 51 Piṅgala . | 54 Randra . | ... |
| 4240 | 1061 | 1196 | 545 | 313-14 | 1138-39 | 52 Kālayukta . | 55 Dūrmatī . | ... |
| 4241 | 1062 | 1197 | 546 | 314-15 | 1139-40 | 53 Siddhārthin . | 56 Dundubhi . | 8 Kārttika . |
| 4242 | 1063 | 1198 | 547 | 315-16 | *1140-41 | 54 Randra . | 57 Rudhirōdgārin . | ... |
| 4243 | 1064 | 1199 | 548 | 316-17 | 1141-42 | 55 Dūrmatī . | 58 Raktākha . | ... |
| 4244 | 1065 | 1200 | 549 | 317-18 | 1142-43 | 56 Dundubhi . | 59 Krōdhana . | 5 Srāvaṇa . |
| 4245 | 1066 | 1201 | 550 | 318-19 | 1143-44 | 57 Rudhirōdgārin . | 60 Kshaya . | ... |

XC—*could*.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|--------------|------------------------------|---|--------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Māha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 25 Mar. (84) . . . | 3 Tues. . . | 14 33 0 | 14 Mar. (73) . . . | 6 Fri. . . | 231-0424 | 4221 |
| 24 Mar. (84) . . . | 4 Wed. . . | 20 45 9 | 2 Mar. (62) . . . | 3 Tues. . . | 106-7652 | 4222 |
| 25 Mar. (84) . . . | 6 Fri. . . | 2 57 18 | 21 Mar. (80) . . . | 2 Mon. . . | 141-4477 | 4223 |
| 25 Mar. (84) . . . | 0 Sat. . . | 9 9 27 | 10 Mar. (69) . . . | 6 Fri. . . | 17-1704 | 4224 |
| 25 Mar. (84) . . . | 1 Sun. . . | 15 21 36 | 28 Feb. (59) . . . | 4 Wed. . . | 231-5253 | 4225 |
| 24 Mar. (84) . . . | 2 Mon. . . | 21 33 45 | 18 Mar. (78) . . . | 3 Tues. . . | 266-2077 | 4226 |
| 25 Mar. (84) . . . | 4 Wed. . . | 3 45 54 | 7 Mar. (66) . . . | 0 Sat. . . | 141-3306 | 4227 |
| 25 Mar. (84) . . . | 5 Thurs. . . | 9 58 3 | 24 Feb. (55) . . . | 4 Wed. . . | 17-6533 | 4228 |
| 25 Mar. (84) . . . | 6 Fri. . . | 16 10 12 | 15 Mar. (74) . . . | 3 Tues. . . | 52-3357 | 4229 |
| 24 Mar. (84) . . . | 0 Sat. . . | 22 22 21 | 4 Mar. (64) . . . | 1 Sun. . . | 266-6906 | 4230 |
| 25 Mar. (84) . . . | 2 Mon. . . | 4 34 30 | 23 Mar. (82) . . . | 0 Sat. . . | 301-3729 | 4231 |
| 25 Mar. (84) . . . | 3 Tues. . . | 10 46 36 | 12 Mar. (71) . . . | 4 Wed. . . | 177-0958 | 4232 |
| 25 Mar. (84) . . . | 4 Wed. . . | 16 58 48 | 1 Mar. (60) . . . | 1 Sun. . . | 52-8186 | 4233 |
| 24 Mar. (84) . . . | 5 Thurs. . . | 23 10 57 | 19 Mar. (79) . . . | 0 Sat. . . | 87-5011 | 4234 |
| 25 Mar. (84) . . . | 0 Sat. . . | 5 23 6 | 9 Mar. (68) . . . | 5 Thurs. . . | 301-8558 | 4235 |
| 25 Mar. (84) . . . | 1 Sun. . . | 11 35 15 | 26 Feb. (57) . . . | 2 Mon. . . | 177-5787 | 4236 |
| 25 Mar. (84) . . . | 2 Mon. . . | 17 47 24 | 17 Mar. (70) . . . | 1 Sun. . . | 212-2611 | 4237 |
| 24 Mar. (84) . . . | 3 Tues. . . | 23 59 33 | 5 Mar. (65) . . . | 5 Thurs. . . | 87-9840 | 4238 |
| 25 Mar. (84) . . . | 5 Thurs. . . | 6 11 42 | 24 Mar. (83) . . . | 4 Wed. . . | 122-6663 | 4239 |
| 25 Mar. (84) . . . | 6 Fri. . . | 12 23 51 | 13 Mar. (72) . . . | 1 Sun. . . | 9996-3892 § | 4240 |
| 25 Mar. (84) . . . | 0 Sat. . . | 18 36 0 | 3 Mar. (62) . . . | 6 Fri. . . | 212-7440 | 4241 |
| 25 Mar. (85) . . . | 2 Mon. . . | 0 48 9 | 21 Mar. (81) . . . | 5 Thurs. . . | 247-4264 | 4242 |
| 25 Mar. (84) . . . | 3 Tues. . . | 7 0 18 | 10 Mar. (69) . . . | 2 Mon. . . | 123-0492 | 4243 |
| 25 Mar. (84) . . . | 4 Wed. . . | 13 12 27 | 27 Feb. (58) . . . | 6 Fri. . . | 9998-9721 § | 4244 |
| 25 Mar. (84) . . . | 5 Thurs. . . | 19 24 36 | 18 Mar. (77) . . . | 5 Thurs. . . | 33-5545 | 4245 |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (adhikar) lunar months. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Saka. | Chaitradī Vikrama. | Māghadī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4246 | 1067 | 1202 | 551 | 319-20 | *1144-45 | 58 Baktāksha . | 1 Prabhava . | ... |
| 4247 | 1068 | 1203 | 552 | 320-21 | 1145-46 | 59 Krōdhana . | 2 Vibhava . | 1 Chaitra . |
| 4248 | 1069 | 1204 | 553 | 321-22 | 1146-47 | 60 Kshaya . | 3 Śukla . | ... |
| 4249 | 1070 | 1205 | 554 | 322-23 | 1147-48 | 1 Prabhava . | 4 Pramōda . | 10 Pausa . |
| 4250 | 1071 | 1206 | 555 | 323-24 | *1148-49 | 2 Vibhava . | 5 Prajāpati . | ... |
| 4251 | 1072 | 1207 | 556 | 324-25 | 1149-50 | 3 Śukla . | 6 Ahirā . | ... |
| 4252 | 1073 | 1208 | 557 | 325-26 | 1150-51 | 4 Pramōda . | 7 Śrīmukha . | 6 Bhādrapada . |
| 4253 | 1074 | 1209 | 558 | 326-27 | 1151-52 | 5 Prajāpati . | 8 Bhāva . | ... |
| 4254 | 1075 | 1210 | 559 | 327-28 | *1152-53 | 6 Ahirā . | 9 Yavan . | ... |
| 4255 | 1076 | 1211 | 560 | 328-29 | 1153-54 | 7 Śrīmukha . | 10 Dhātṛi . | 3 Jyēsthā . |
| 4256 | 1077 | 1212 | 561 | 329-30 | 1154-55 | 8 Bhāva . | 11 Īvara . | ... |
| 4257 | 1078 | 1213 | 562 | 330-31 | 1155-56 | 9 Yavan . | 12 Bahudhānya . | 11 Māgha . |
| 4258 | 1079 | 1214 | 563 | 331-32 | *1156-57 | 10 Dhātṛi . | 13 Pramādin . | ... |
| 4259 | 1080 | 1215 | 564 | 332-33 | 1157-58 | 11 Īvara . | 14 Vikrama . | ... |
| 4260 | 1081 | 1216 | 565 | 333-34 | 1158-59 | 12 Bahudhānya . | 15 Vṛisha . | 8 Kārtika . |
| 4261 | 1082 | 1217 | 566 | 334-35 | 1159-60 | 13 Pramādin . | 16 Chitrabhāna † . | ... |
| 4262 | 1083 | 1218 | 567 | 335-36 | *1160-61 | 14 Vikrama . | 18 Tārā . | ... |
| 4263 | 1084 | 1219 | 568 | 336-37 | 1161-62 | 15 Vṛisha . | 19 Pārthiva . | 5 Śrāvā . |
| 4264 | 1085 | 1220 | 569 | 337-38 | 1162-63 | 16 Chitrabhāna . | 20 Vyā . | ... |
| 4265 | 1086 | 1221 | 570 | 338-39 | 1163-64 | 17 Subhāna . | 21 Sarvajit . | ... |
| 4266 | 1087 | 1222 | 571 | 339-40 | *1164-65 | 18 Tārā . | 22 Sarvadhāra . | 1 Chaitra . |
| 4267 | 1088 | 1223 | 572 | 340-41 | 1165-66 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4268 | 1089 | 1224 | 573 | 341-42 | 1166-67 | 20 Vyā . | 24 Vikṛita . | 10 Pausa . |
| 4269 | 1090 | 1225 | 574 | 342-43 | 1167-68 | 21 Sarvajit . | 25 Khara . | ... |
| 4270 | 1091 | 1226 | 575 | 343-44 | *1168-69 | 22 Sarvadhāra . | 26 Nandana . | ... |

† 17 Subhāna was suppressed in the north by the *Brahma-Siddhanta*, both in true and mean reckoning.

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Māha-sankranti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 25 Mar. (85) | 0 Sat. | 1 36 45 | 7 Mar. (87) | 3 Tues. | 247-9003 | 4246 |
| 25 Mar. (84) | 1 Sun. | 7 48 54 | 24 Feb. (55) | 0 Sat. | 123-6321 | 4247 |
| 25 Mar. (84) | 2 Mon. | 14 1 3 | 15 Mar. (74) | 5 Fri. | 158-3145 | 4248 |
| 25 Mar. (84) | 3 Tues. | 20 13 12 | 4 Mar. (63) | 3 Tues. | 34-0373 | 4249 |
| 25 Mar. (85) | 5 Thurs. | 2 25 21 | 22 Mar. (82) | 2 Mon. | 68-7197 | 4250 |
| 25 Mar. (84) | 6 Fri. | 8 37 30 | 12 Mar. (71) | 0 Sat. | 283-0746 | 4251 |
| 25 Mar. (84) | 0 Sat. | 14 49 39 | 1 Mar. (60) | 4 Wed. | 158-7074 | 4252 |
| 25 Mar. (84) | 1 Sun. | 21 1 48 | 20 Mar. (79) | 3 Tues. | 193-4798 | 4253 |
| 25 Mar. (85) | 3 Tues. | 3 13 57 | 8 Mar. (68) | 0 Sat. | 60-2026 | 4254 |
| 25 Mar. (84) | 4 Wed. | 9 26 6 | 26 Feb. (57) | 5 Thurs. | 283-5575 | 4255 |
| 25 Mar. (84) | 5 Thurs. | 15 38 15 | 17 Mar. (76) | 4 Wed. | 318-2398 | 4256 |
| 25 Mar. (84) | 6 Fri. | 21 50 24 | 6 Mar. (65) | 1 Sun. | 163-0627 | 4257 |
| 25 Mar. (85) | 1 Sun. | 4 2 33 | 24 Mar. (84) | 0 Sat. | 228-6451 | 4258 |
| 25 Mar. (84) | 2 Mon. | 10 14 42 | 13 Mar. (72) | 4 Wed. | 104-3680 | 4259 |
| 25 Mar. (84) | 3 Tues. | 16 26 51 | 3 Mar. (62) | 2 Mon. | 318-7227 | 4260 |
| 25 Mar. (84) | 4 Wed. | 22 39 0 | 21 Mar. (80) | 0 Sat. | 14-7731 | 4261 |
| 25 Mar. (85) | 6 Fri. | 4 51 9 | 10 Mar. (70) | 5 Thurs. | 229-1280 | 4262 |
| 25 Mar. (84) | 0 Sat. | 11 3 18 | 27 Feb. (58) | 2 Mon. | 104-8508 | 4263 |
| 25 Mar. (84) | 1 Sun. | 17 15 27 | 18 Mar. (77) | 1 Sun. | 139-5332 | 4264 |
| 25 Mar. (84) | 2 Mon. | 23 27 36 | 7 Mar. (66) | 5 Thurs. | 15-2561 | 4265 |
| 25 Mar. (85) | 4 Wed. | 5 39 45 | 25 Feb. (56) | 3 Tues. | 229-6109 | 4266 |
| 25 Mar. (84) | 5 Thurs. | 11 51 54 | 15 Mar. (74) | 2 Mon. | 264-2932 | 4267 |
| 25 Mar. (84) | 6 Fri. | 18 4 3 | 4 Mar. (62) | 6 Fri. | 140-0181 | 4268 |
| 26 Mar. (85) | 1 Sun. | 0 16 12 | 23 Mar. (82) | 5 Thurs. | 174-6986 | 4269 |
| 25 Mar. (85) | 2 Mon. | 6 28 21 | 11 Mar. (71) | 2 Mon. | 36-4513 | 4270 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|------------------|-------------------------------|---------|----------|--------------------|------------------|---|
| Kali. | Saka. | Chaitra-Vikrama. | Mishadi solar year in Bengal. | Kollam. | A.D. | JUVIAN SAMVATSAKA. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4271 | 1092 | 1227 | 576 | 344-45 | 1169-70 | 23 Virōdhin . | 27 Vijaya . | 6 Bhādrapada . |
| 4272 | 1093 | 1228 | 577 | 345-46 | 1170-71 | 24 Vikṛita . | 28 Jaya . | ... |
| 4273 | 1094 | 1229 | 578 | 346-47 | 1171-72 | 25 Khara . | 29 Mammatha . | ... |
| 4274 | 1095 | 1230 | 579 | 347-48 | *1172-73 | 26 Namana . | 30 Durmukha . | 3 Jyēṣṭha . |
| 4275 | 1096 | 1231 | 580 | 348-49 | 1173-74 | 27 Vijaya . | 31 Hāmālamba . | ... |
| 4276 | 1097 | 1232 | 581 | 349-50 | 1174-75 | 28 Jaya . | 32 Vilamba . | 11 Māgha . |
| 4277 | 1098 | 1233 | 582 | 350-51 | 1175-76 | 29 Mammatha . | 33 Vikārin . | ... |
| 4278 | 1099 | 1234 | 583 | 351-52 | *1176-77 | 30 Durmukha . | 34 Śārvarin . | ... |
| 4279 | 1100 | 1235 | 584 | 352-53 | 1177-78 | 31 Hāmālamba . | 35 Plava . | 8 Kārttika . |
| 4280 | 1101 | 1236 | 585 | 353-54 | 1178-79 | 32 Vilamba . | 36 Śubhakṛit . | ... |
| 4281 | 1102 | 1237 | 586 | 354-55 | 1179-80 | 33 Vikārin . | 37 Śobhana . | ... |
| 4282 | 1103 | 1238 | 587 | 355-56 | *1180-81 | 34 Śārvarin . | 38 Krōdhin . | 4 Āshāḍha . |
| 4283 | 1104 | 1239 | 588 | 356-57 | 1181-82 | 35 Plava . | 39 Viśvāvasu . | ... |
| 4284 | 1105 | 1240 | 589 | 357-58 | 1182-83 | 36 Śubhakṛit . | 40 Parābhava . | ... |
| 4285 | 1106 | 1241 | 590 | 358-59 | 1183-84 | 37 Śobhana . | 41 Plavaṅga . | 1 Chaitra . |
| 4286 | 1107 | 1242 | 591 | 359-60 | *1184-85 | 38 Krōdhin . | 42 Kilaka . | ... |
| 4287 | 1108 | 1243 | 592 | 360-61 | 1185-86 | 39 Viśvāvasu . | 43 Saumya . | 9 Mārgaśīra . |
| 4288 | 1109 | 1244 | 593 | 361-62 | 1186-87 | 40 Parābhava . | 44 Sādhāraṇa . | ... |
| 4289 | 1110 | 1245 | 594 | 362-63 | 1187-88 | 41 Plavaṅga . | 45 Virōdhakṛit . | ... |
| 4290 | 1111 | 1246 | 595 | 363-64 | *1188-89 | 42 Kilaka . | 46 Paridhāvin . | 6 Bhādrapada . |
| 4291 | 1112 | 1247 | 596 | 364-65 | 1189-90 | 43 Saumya . | 47 Pramādin . | ... |
| 4292 | 1113 | 1248 | 597 | 365-66 | 1190-91 | 44 Sādhāraṇa . | 48 Ananda . | ... |
| 4293 | 1114 | 1249 | 598 | 366-67 | 1191-92 | 45 Virōdhakṛit . | 49 Rākṣasa . | 2 Vaiśākha . |
| 4294 | 1115 | 1250 | 599 | 367-68 | *1192-93 | 46 Paridhāvin . | 50 Anala . | ... |
| 4295 | 1116 | 1251 | 600 | 368-69 | 1193-94 | 47 Pramādin . | 51 Prigala . | 11 Māgha . |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-sankrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the $t/\Delta t$). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 25 Mar. (84) . . . | 3 Tues. . . | 12 40 30 | 1 Mar. (60) . . . | 0 Sat. . . | 264-7762 | 4271 |
| 25 Mar. (84) . . . | 4 Wed. . . | 18 52 39 | 20 Mar. (79) . . . | 6 Fri. . . | 290-4586 | 4272 |
| 26 Mar. (85) . . . | 6 Fri. . . | 1 4 48 | 9 Mar. (68) . . . | 3 Tues. . . | 175-1815 | 4273 |
| 25 Mar. (85) . . . | 0 Sat. . . | 7 16 57 | 26 Feb. (57) . . . | 0 Sat. . . | 50-9042 | 4274 |
| 25 Mar. (84) . . . | 1 Sun. . . | 13 29 6 | 16 Mar. (75) . . . | 6 Fri. . . | 85-5866 | 4275 |
| 25 Mar. (84) . . . | 2 Mon. . . | 19 41 15 | 6 Mar. (65) . . . | 4 Wed. . . | 299-9415 | 4276 |
| 26 Mar. (85) . . . | 4 Wed. . . | 1 53 24 | 24 Mar. (83) . . . | 2 Mon. . . | 9993-9918 § | 4277 |
| 25 Mar. (85) . . . | 5 Thur. . . | 8 5 33 | 13 Mar. (73) . . . | 0 Sat. . . | 210-3467 | 4278 |
| 25 Mar. (84) . . . | 6 Fri. . . | 14 17 42 | 2 Mar. (61) . . . | 4 Wed. . . | 86-0695 | 4279 |
| 25 Mar. (84) . . . | 0 Sat. . . | 20 29 51 | 21 Mar. (80) . . . | 3 Tues. . . | 120-7519 | 4280 |
| 26 Mar. (85) . . . | 2 Mon. . . | 2 42 0 | 10 Mar. (69) . . . | 0 Sat. . . | 9996-4747 § | 4281 |
| 25 Mar. (85) . . . | 3 Tues. . . | 8 54 9 | 28 Feb. (59) . . . | 5 Thur. . . | 210-8296 | 4282 |
| 25 Mar. (84) . . . | 4 Wed. . . | 15 6 18 | 18 Mar. (77) . . . | 4 Wed. . . | 245-5129 | 4283 |
| 25 Mar. (84) . . . | 5 Thur. . . | 21 18 27 | 7 Mar. (66) . . . | 1 Sun. . . | 121-2349 | 4284 |
| 26 Mar. (85) . . . | 0 Sat. . . | 3 30 36 | 24 Feb. (55) . . . | 5 Thur. . . | 9996-9676 § | 4285 |
| 25 Mar. (85) . . . | 1 Sun. . . | 9 42 45 | 14 Mar. (74) . . . | 4 Wed. . . | 31-6400 | 4286 |
| 25 Mar. (84) . . . | 2 Mon. . . | 15 54 54 | 4 Mar. (63) . . . | 2 Mon. . . | 245-9949 | 4287 |
| 25 Mar. (84) . . . | 3 Tues. . . | 22 7 3 | 23 Mar. (82) . . . | 1 Sun. . . | 280-6772 | 4288 |
| 26 Mar. (85) . . . | 5 Thur. . . | 4 19 12 | 12 Mar. (71) . . . | 5 Thur. . . | 156-4061 | 4289 |
| 25 Mar. (85) . . . | 6 Fri. . . | 10 31 21 | 29 Feb. (60) . . . | 2 Mon. . . | 32-1230 | 4290 |
| 25 Mar. (84) . . . | 0 Sat. . . | 16 43 30 | 19 Mar. (78) . . . | 1 Sun. . . | 66-8054 | 4291 |
| 25 Mar. (84) . . . | 1 Sun. . . | 22 55 39 | 9 Mar. (68) . . . | 6 Fri. . . | 281-1602 | 4292 |
| 26 Mar. (85) . . . | 3 Tues. . . | 5 7 48 | 26 Feb. (57) . . . | 3 Tues. . . | 156-8830 | 4293 |
| 25 Mar. (85) . . . | 4 Wed. . . | 11 19 57 | 16 Mar. (76) . . . | 2 Mon. . . | 191-5654 | 4294 |
| 25 Mar. (84) . . . | 5 Thur. . . | 17 32 6 | 5 Mar. (64) . . . | 6 Fri. . . | 67-2882 | 4295 |

§ Chaitra śukla 1 was suppressed.

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|------------------|------------------------------|---------|-----------|--------------------|--------------------|---|
| Kali. | Saka. | Chaitra-Vikrama. | Mēshāñ solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4296 | 1117 | 1252 | 601 | 369-70 | 1194-95 | 48 Ānanda . | 52 Kālayukta . | ... |
| 4297 | 1118 | 1253 | 602 | 370-71 | 1195-96 | 49 Rākshasa . | 53 Siddhārthin . | ... |
| 4298 | 1119 | 1254 | 603 | 371-72 | *1196-97 | 50 Anala . | 54 Raudra . | 8 Kārttika † . |
| 4299 | 1120 | 1255 | 604 | 372-73 | 1197-98 | 51 Pīngala . | 55 Dūrmati . | ... |
| 4300 | 1121 | 1256 | 605 | 373-74 | 1198-99 | 52 Kālayukta . | 56 Dandubhi . | ... |
| 4301 | 1122 | 1257 | 606 | 374-75 | 1199-1200 | 53 Siddhārthin . | 57 Rudhīrōlgācin . | 4 Āshādha . |
| 4302 | 1123 | 1258 | 607 | 375-76 | *1200-01 | 54 Raudra . | 58 Raktāksha . | ... |
| 4303 | 1124 | 1259 | 608 | 376-77 | 1201-02 | 55 Dūrmati . | 59 Krōdhana . | ... |
| 4304 | 1125 | 1260 | 609 | 377-78 | 1202-03 | 56 Dandubhi . | 60 Kshaya . | 1 Chaitra . |
| 4305 | 1126 | 1261 | 610 | 378-79 | 1203-04 | 57 Rudhīrōlgācin . | 1 Prabhava . | ... |
| 4306 | 1127 | 1262 | 611 | 379-80 | *1204-05 | 58 Raktāksha . | 2 Vibhava . | 9 Mārgaśīra . |
| 4307 | 1128 | 1263 | 612 | 380-81 | 1205-06 | 59 Krōdhana . | 3 Śukla . | ... |
| 4308 | 1129 | 1264 | 613 | 381-82 | 1206-07 | 60 Kshaya . | 4 Pramōda . | ... |
| 4309 | 1130 | 1265 | 614 | 382-83 | 1207-08 | 1 Prabhava . | 5 Prajāpati . | 6 Bhādrapada . |
| 4310 | 1131 | 1266 | 615 | 383-84 | *1208-09 | 2 Vibhava . | 6 Aṅgīra . | ... |
| 4311 | 1132 | 1267 | 616 | 384-85 | 1209-10 | 3 Śukla . | 7 Śrīmukha . | ... |
| 4312 | 1133 | 1268 | 617 | 385-86 | 1210-11 | 4 Pramōda . | 8 Bhāva . | 2 Vaiśākha . |
| 4313 | 1134 | 1269 | 618 | 386-87 | 1211-12 | 5 Prajāpati . | 9 Yuvan . | ... |
| 4314 | 1135 | 1270 | 619 | 387-88 | *1212-13 | 6 Aṅgīra . | 10 Dhātṛi . | 11 Māgha . |
| 4315 | 1136 | 1271 | 620 | 388-89 | 1213-14 | 7 Śrīmukha . | 11 Jēvara . | ... |
| 4316 | 1137 | 1272 | 621 | 389-90 | 1214-15 | 8 Bhāva . | 12 Bahudhānya . | ... |
| 4317 | 1138 | 1273 | 622 | 390-91 | 1215-16 | 9 Yuvan . | 13 Pramōdin . | 7 Āśvina . |
| 4318 | 1139 | 1274 | 623 | 391-92 | *1216-17 | 10 Dhātṛi . | 14 Vikrama . | ... |
| 4319 | 1140 | 1275 | 624 | 392-93 | 1217-18 | 11 Jēvara . | 15 Vṛisha . | ... |
| 4320 | 1141 | 1276 | 625 | 393-94 | 1218-19 | 12 Bahudhānya . | 16 Chitrabhān . | 4 Āshādha . |

† See "Remarks," p. 523 above.

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṁkrānti. | Day and month, A.D. | Week-day. | a (here = t, the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 25 Mar. (84) | 6 Fri. | 23 44 15 | 24 Mar. (83) | 5 Thurs. | 101-9706 | 4296 |
| 26 Mar. (85) | 1 Sun. | 5 56 24 | 14 Mar. (73) | 3 Tues. | 316-3255 | 4297 |
| 25 Mar. (85) | 2 Mon. | 12 8 33 | 2 Mar. (62) | 0 Sat. | 192-0482 | 4298 |
| 25 Mar. (84) | 3 Tues. | 18 20 42 | 21 Mar. (80) | 6 Fri. | 226-7307 | 4299 |
| 26 Mar. (85) | 5 Thurs. | 0 32 51 | 10 Mar. (69) | 3 Tues. | 102-4535 | 4300 |
| 26 Mar. (85) | 6 Fri. | 6 45 0 | 28 Feb. (59) | 1 Sun. | 316-8083 | 4301 |
| 25 Mar. (85) | 0 Sat. | 12 57 9 | 17 Mar. (77) | 6 Fri. | 12-8587 | 4302 |
| 25 Mar. (84) | 1 Sun. | 19 9 18 | 7 Mar. (66) | 4 Wed. | 227-2136 | 4303 |
| 26 Mar. (85) | 3 Tues. | 1 21 27 | 24 Feb. (55) | 1 Sun. | 102-9363 | 4304 |
| 26 Mar. (85) | 4 Wed. | 7 33 36 | 15 Mar. (74) | 0 Sat. | 187-6188 | 4305 |
| 25 Mar. (85) | 5 Thurs. | 13 45 45 | 3 Mar. (63) | 4 Wed. | 13-3416 | 4306 |
| 25 Mar. (84) | 6 Fri. | 19 57 54 | 22 Mar. (81) | 3 Tues. | 48-0239 | 4307 |
| 26 Mar. (85) | 1 Sun. | 2 10 3 | 12 Mar. (71) | 1 Sun. | 262-3788 | 4308 |
| 26 Mar. (85) | 2 Mon. | 8 22 12 | 1 Mar. (60) | 5 Thurs. | 138-1017 | 4309 |
| 25 Mar. (85) | 3 Tues. | 14 34 21 | 19 Mar. (79) | 4 Wed. | 172-7840 | 4310 |
| 25 Mar. (84) | 4 Wed. | 20 46 30 | 8 Mar. (67) | 1 Sun. | 48-5069 | 4311 |
| 26 Mar. (85) | 6 Fri. | 2 58 39 | 26 Feb. (57) | 6 Fri. | 262-8617 | 4312 |
| 26 Mar. (85) | 0 Sat. | 9 10 48 | 17 Mar. (76) | 5 Thurs. | 297-5441 | 4313 |
| 25 Mar. (85) | 1 Sun. | 15 22 57 | 5 Mar. (65) | 2 Mon. | 173-2669 | 4314 |
| 25 Mar. (84) | 2 Mon. | 21 35 6 | 24 Mar. (83) | 1 Sun. | 207-0493 | 4315 |
| 26 Mar. (85) | 4 Wed. | 3 47 15 | 13 Mar. (72) | 5 Thurs. | 83-0722 | 4316 |
| 26 Mar. (85) | 5 Thurs. | 9 59 24 | 3 Mar. (62) | 3 Tues. | 298-0269 | 4317 |
| 25 Mar. (85) | 6 Fri. | 16 11 33 | 21 Mar. (81) | 2 Mon. | 332-7094 | 4318 |
| 25 Mar. (84) | 0 Sat. | 22 23 42 | 10 Mar. (69) | 6 Fri. | 208-4322 | 4319 |
| 26 Mar. (85) | 2 Mon. | 4 35 51 | 27 Feb. (58) | 3 Tues. | 84-1551 | 4320 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|---------------------|-------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradik Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOTIAN SĀMVAṬSARA. | | Mēsh intercalated (<i>adhika</i>) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4321 | 1142 | 1277 | 626 | 394-95 | 1219-20 | 13 Pramādin . | 17 Subhānu . | ... |
| 4322 | 1143 | 1278 | 627 | 395-96 | *1220-21 | 14 Vikrama . | 18 Tārāga . | 12 Phālguna . |
| 4323 | 1144 | 1279 | 628 | 396-97 | 1221-22 | 15 Vṛisha . | 19 Pārthiva . | ... |
| 4324 | 1145 | 1280 | 629 | 397-98 | 1222-23 | 16 Chitrabhānu . | 20 Vyaya . | ... |
| 4325 | 1146 | 1281 | 630 | 398-99 | 1223-24 | 17 Subhānu . | 21 Sarvajit . | 9 Mārgaśīra . |
| 4326 | 1147 | 1282 | 631 | 399-400 | *1224-25 | 18 Tārāga . | 22 Sarvadhārin . | ... |
| 4327 | 1148 | 1283 | 632 | 400-01 | 1225-26 | 19 Pārthiva . | 23 Virōdhin . | ... |
| 4328 | 1149 | 1284 | 633 | 401-02 | 1226-27 | 20 Vyaya . | 24 Vikṛita . | 5 Śrāvāga . |
| 4329 | 1150 | 1285 | 634 | 402-03 | 1227-28 | 21 Sarvajit . | 25 Khara . | ... |
| 4330 | 1151 | 1286 | 635 | 403-04 | *1228-29 | 22 Sarvadhārin . | 26 Nandana . | ... |
| 4331 | 1152 | 1287 | 636 | 404-05 | 1229-30 | 23 Virōdhin . | 27 Vijaya . | 2 Vaiśākha . |
| 4332 | 1153 | 1288 | 637 | 405-06 | 1230-31 | 24 Vikṛita . | 28 Jaya . | ... |
| 4333 | 1154 | 1289 | 638 | 406-07 | 1231-32 | 25 Khara . | 29 Manmatha . | 10 Fausa . |
| 4334 | 1155 | 1290 | 639 | 407-08 | *1232-33 | 26 Nandana . | 30 Durmukha . | ... |
| 4335 | 1156 | 1291 | 640 | 408-09 | 1233-34 | 27 Vijaya . | 31 Hēmalamba . | ... |
| 4336 | 1157 | 1292 | 641 | 409-10 | 1234-35 | 28 Jaya . | 32 Vilamba . | 7 Āśvina . |
| 4337 | 1158 | 1293 | 642 | 410-11 | 1235-36 | 29 Manmatha . | 33 Vikārin . | ... |
| 4338 | 1159 | 1294 | 643 | 411-12 | *1236-37 | 30 Durmukha . | 34 Śārvarin . | ... |
| 4339 | 1160 | 1295 | 644 | 412-13 | 1237-38 | 31 Hēmalamba . | 35 Plava . | 4 Āshādha . |
| 4340 | 1161 | 1296 | 645 | 413-14 | 1238-39 | 32 Vilamba . | 36 Subhakt . | ... |
| 4341 | 1162 | 1297 | 646 | 414-15 | 1239-40 | 33 Vikārin . | 37 Śobhana . | 12 Phālguna . |
| 4342 | 1163 | 1298 | 647 | 415-16 | *1240-41 | 34 Śārvarin . | 38 Krōdhin . | ... |
| 4343 | 1164 | 1299 | 648 | 416-17 | 1241-42 | 35 Plava . | 39 Viśvānu . | ... |
| 4344 | 1165 | 1300 | 649 | 417-18 | 1242-43 | 36 Subhakt . | 40 Paribhava . | 9 Mārgaśīra . |
| 4345 | 1166 | 1301 | 650 | 418-19 | 1243-44 | 37 Śobhana . | 41 Plavāga . | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-----------|-------------------------------|---|-----------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Fall. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tittā</i>). | |
| 13 | 14 | 17 | 18 | 20 | 23 | 1 |
| | | H. M. S. | | | | |
| 26 Mar. (85) | 3 Tues. | 10 48 0 | 18 Mar. (77) | 2 Mon. | 118-8374 | 4321 |
| 25 Mar. (85) | 4 Wed. | 17 0 9 | 7 Mar. (67) | 0 Sat. | 333-1923 | 4322 |
| 25 Mar. (84) | 5 Thurs. | 23 12 18 | 25 Mar. (84) | 5 Thurs. | 29-2427 | 4323 |
| 26 Mar. (85) | 0 Sat. | 5 24 27 | 15 Mar. (74) | 3 Tues. | 243-5975 | 4324 |
| 26 Mar. (85) | 1 Sun. | 11 36 36 | 4 Mar. (63) | 0 Sat. | 119-3203 | 4325 |
| 25 Mar. (85) | 2 Mon. | 17 48 45 | 22 Mar. (82) | 6 Fri. | 154-0027 | 4326 |
| 26 Mar. (85) | 4 Wed. | 0 0 54 | 11 Mar. (70) | 3 Tues. | 29-7256 | 4327 |
| 26 Mar. (85) | 5 Thurs. | 6 13 3 | 1 Mar. (60) | 1 Sun. | 244-0804 | 4328 |
| 26 Mar. (85) | 6 Fri. | 12 25 12 | 20 Mar. (79) | 0 Sat. | 278-7628 | 4329 |
| 25 Mar. (85) | 0 Sat. | 18 37 21 | 8 Mar. (68) | 4 Wed. | 154-4857 | 4330 |
| 26 Mar. (85) | 2 Mon. | 0 49 30 | 25 Feb. (58) | 1 Sun. | 30-2084 | 4331 |
| 26 Mar. (85) | 3 Tues. | 7 1 39 | 16 Mar. (76) | 0 Sat. | 64-8908 | 4332 |
| 26 Mar. (85) | 4 Wed. | 13 13 48 | 6 Mar. (65) | 5 Thurs. | 279-2457 | 4333 |
| 25 Mar. (85) | 5 Thurs. | 19 25 57 | 24 Mar. (84) | 4 Wed. | 313-9281 | 4334 |
| 26 Mar. (85) | 0 Sat. | 1 38 6 | 13 Mar. (72) | 1 Sun. | 189-6500 | 4335 |
| 26 Mar. (85) | 1 Sun. | 7 50 15 | 2 Mar. (61) | 5 Thurs. | 65-3738 | 4336 |
| 26 Mar. (85) | 2 Mon. | 14 2 24 | 21 Mar. (80) | 4 Wed. | 100-0562 | 4337 |
| 25 Mar. (85) | 3 Tues. | 20 14 33 | 10 Mar. (70) | 2 Mon. | 314-4110 | 4338 |
| 26 Mar. (85) | 5 Thurs. | 2 26 42 | 27 Feb. (58) | 6 Fri. | 160-1338 | 4339 |
| 26 Mar. (85) | 6 Fri. | 8 38 51 | 18 Mar. (77) | 5 Thurs. | 224-8162 | 4340 |
| 26 Mar. (85) | 0 Sat. | 14 51 0 | 7 Mar. (66) | 2 Mon. | 100-5391 | 4341 |
| 25 Mar. (85) | 1 Sun. | 21 3 9 | 25 Mar. (85) | 1 Sun. | 135-2214 | 4342 |
| 26 Mar. (85) | 3 Tues. | 3 15 18 | 14 Mar. (73) | 5 Thurs. | 10-9443 | 4343 |
| 26 Mar. (85) | 4 Wed. | 9 27 27 | 4 Mar. (63) | 3 Tues. | 325-2991 | 4344 |
| 25 Mar. (85) | 5 Thurs. | 15 39 36 | 23 Mar. (82) | 2 Mon. | 259-0815 | 4345 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Māghādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSAHA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4346 | 1167 | 1302 | 651 | 419-20 | *1244-45 | 38 Krōdhin | 42 Kṛaka† | ... |
| 4347 | 1168 | 1303 | 652 | 420-21 | 1245-46 | 39 Viśvāvasa | 44 Sādhāraṇa | 5 Śrāvṇa |
| 4348 | 1169 | 1304 | 653 | 421-22 | 1246-47 | 40 Parābhava | 45 Virōdhakṛit | ... |
| 4349 | 1170 | 1305 | 654 | 422-23 | 1247-48 | 41 Plavaṅga | 46 Paridhāvin | ... |
| 4350 | 1171 | 1306 | 655 | 423-24 | *1248-49 | 42 Kṛaka | 47 Pramādin | 2 Vaiśākha |
| 4351 | 1172 | 1307 | 656 | 424-25 | 1249-50 | 43 Saumya | 48 Ananda | ... |
| 4352 | 1173 | 1308 | 657 | 425-26 | 1250-51 | 44 Sādhāraṇa | 49 Rōkṣasa | 10 Pausa |
| 4353 | 1174 | 1309 | 658 | 426-27 | 1251-52 | 45 Virōdhakṛit | 50 Anala | ... |
| 4354 | 1175 | 1310 | 659 | 427-28 | *1252-53 | 46 Paridhāvin | 51 Piṅgala | ... |
| 4355 | 1176 | 1311 | 660 | 428-29 | 1253-54 | 47 Pramādin | 52 Kālayukta | 7 Āśvina |
| 4356 | 1177 | 1312 | 661 | 429-30 | 1254-55 | 48 Ananda | 53 Siddhārthin | ... |
| 4357 | 1178 | 1313 | 662 | 430-31 | 1255-56 | 49 Rākṣasa | 54 Raudra | ... |
| 4358 | 1179 | 1314 | 663 | 431-32 | *1256-57 | 50 Anala | 55 Darmati | 3 Jyēṣṭha |
| 4359 | 1180 | 1315 | 664 | 432-33 | 1257-58 | 51 Piṅgala | 56 Dandabhi | ... |
| 4360 | 1181 | 1316 | 665 | 433-34 | 1258-59 | 52 Kālayukta | 57 Rudhirōdgārin | 12 Phālguna |
| 4361 | 1182 | 1317 | 666 | 434-35 | 1259-60 | 53 Siddhārthin | 58 Raktākṣa | ... |
| 4362 | 1183 | 1318 | 667 | 435-36 | *1260-61 | 54 Raudra | 59 Krōdhana | ... |
| 4363 | 1184 | 1319 | 668 | 436-37 | 1261-62 | 55 Darmati | 60 Kahaya | 8 Kārttika |
| 4364 | 1185 | 1320 | 669 | 437-38 | 1262-63 | 56 Dandabhi | 1 Prabhava | ... |
| 4365 | 1186 | 1321 | 670 | 438-39 | 1263-64 | 57 Rudhirōdgārin | 2 Vibhava | ... |
| 4366 | 1187 | 1322 | 671 | 439-40 | *1264-65 | 58 Raktākṣa | 3 Śukla | 5 Śrāvṇa |
| 4367 | 1188 | 1323 | 672 | 440-41 | 1265-66 | 59 Krōdhana | 4 Pramōda | ... |
| 4368 | 1189 | 1324 | 673 | 441-42 | 1266-67 | 60 Kahaya | 5 Prajāpati | ... |
| 4369 | 1190 | 1325 | 674 | 442-43 | 1267-68 | 1 Prabhava | 6 Aṅgira | 1 Chaitra |
| 4370 | 1191 | 1326 | 675 | 443-44 | *1268-69 | 2 Vibhava | 7 Śrīmukha | ... |

† 43 Saumya was suppressed in the north by the mean system. By the "true" system K.Y. 4346 (expired), A.D. 1245-46, was called "Saumya," 44 Sādhāraṇa being suppressed. The next year was 45 Virōdhakṛit by both system of reckoning.

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| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Māha-sankranti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 25 Mar. (85) . . . | 6 Fri. . . | 21 51 45 | 11 Mar. (71) . . . | 6 Fri. . . | 135-7043 | 4346 |
| 26 Mar. (85) . . . | 1 Sun. . . | 4 3 54 | 28 Feb. (59) . . . | 3 Tues. . . | 11-4272 | 4347 |
| 26 Mar. (85) . . . | 2 Mon. . . | 10 16 3 | 19 Mar. (78) . . . | 2 Mon. . . | 45-1096 | 4348 |
| 26 Mar. (85) . . . | 3 Tues. . . | 16 28 12 | 9 Mar. (68) . . . | 0 Sat. . . | 250-4644 | 4349 |
| 25 Mar. (85) . . . | 4 Wed. . . | 22 40 21 | 26 Feb. (57) . . . | 4 Wed. . . | 136-1872 | 4350 |
| 26 Mar. (85) . . . | 6 Fri. . . | 4 52 30 | 16 Mar. (75) . . . | 3 Tues. . . | 170-8696 | 4351 |
| 26 Mar. (85) . . . | 0 Sat. . . | 11 4 39 | 5 Mar. (64) . . . | 0 Sat. . . | 46-5925 | 4352 |
| 26 Mar. (85) . . . | 1 Sun. . . | 17 16 48 | 24 Mar. (83) . . . | 6 Fri. . . | 81-2748 | 4353 |
| 25 Mar. (85) . . . | 2 Mon. . . | 23 28 57 | 13 Mar. (73) . . . | 4 Wed. . . | 295-6297 | 4354 |
| 26 Mar. (85) . . . | 4 Wed. . . | 5 41 6 | 2 Mar. (61) . . . | 1 Sun. . . | 171-3526 | 4355 |
| 26 Mar. (85) . . . | 5 Thur. . . | 11 53 15 | 21 Mar. (80) . . . | 0 Sat. . . | 206-0349 | 4356 |
| 26 Mar. (85) . . . | 6 Fri. . . | 18 5 24 | 10 Mar. (69) . . . | 4 Wed. . . | 81-7577 | 4357 |
| 26 Mar. (85) . . . | 1 Sun. . . | 0 17 33 | 28 Feb. (59) . . . | 2 Mon. . . | 296-1126 | 4358 |
| 26 Mar. (85) . . . | 2 Mon. . . | 6 29 42 | 18 Mar. (77) . . . | 1 Sun. . . | 330-7950 | 4359 |
| 26 Mar. (85) . . . | 3 Tues. . . | 12 41 51 | 7 Mar. (66) . . . | 5 Thur. . . | 206-5178 | 4360 |
| 26 Mar. (85) . . . | 4 Wed. . . | 18 54 0 | 26 Mar. (85) . . . | 4 Wed. . . | 241-2002 | 4361 |
| 26 Mar. (86) . . . | 6 Fri. . . | 1 6 9 | 14 Mar. (74) . . . | 1 Sun. . . | 116-9231 | 4362 |
| 26 Mar. (85) . . . | 0 Sat. . . | 7 18 18 | 4 Mar. (63) . . . | 6 Fri. . . | 331-2778 | 4363 |
| 26 Mar. (85) . . . | 1 Sun. . . | 13 30 27 | 22 Mar. (81) . . . | 4 Wed. . . | 27-3283 | 4364 |
| 26 Mar. (85) . . . | 2 Mon. . . | 19 42 36 | 12 Mar. (71) . . . | 2 Mon. . . | 241-6831 | 4365 |
| 26 Mar. (86) . . . | 4 Wed. . . | 1 54 45 | 29 Feb. (60) . . . | 6 Fri. . . | 117-4060 | 4366 |
| 26 Mar. (85) . . . | 5 Thur. . . | 8 6 54 | 19 Mar. (78) . . . | 5 Thur. . . | 152-0683 | 4367 |
| 26 Mar. (85) . . . | 6 Fri. . . | 14 19 3 | 8 Mar. (67) . . . | 2 Mon. . . | 27-8112 | 4368 |
| 26 Mar. (85) . . . | 0 Sat. . . | 20 31 12 | 26 Feb. (57) . . . | 0 Sat. . . | 242-1660 | 4369 |
| 26 Mar. (86) . . . | 2 Mon. . . | 2 43 21 | 16 Mar. (76) . . . | 6 Fri. . . | 276-8483 | 4370 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adāśika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|--|
| Kali. | Śaka. | Chaltrādi Vikrama. | Mēshādi solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4371 | 1192 | 1327 | 676 | 444-45 | 1260-70 | 3 Śukla . . | 8 Bhāva . . | 10 Pausa . . |
| 4372 | 1193 | 1328 | 677 | 445-46 | 1270-71 | 4 Pramōda . . | 9 Yuvan . . | ... |
| 4373 | 1194 | 1329 | 678 | 446-47 | 1271-72 | 5 Prajāpati . . | 10 Dhātṛi . . | ... |
| 4374 | 1195 | 1330 | 679 | 447-48 | *1272-73 | 6 Aṅgiras . . | 11 Lāvata . . | 7 Āsrina . . |
| 4375 | 1196 | 1331 | 680 | 448-49 | 1273-74 | 7 Śrīmukha . . | 12 Bahudhānya . . | ... |
| 4376 | 1197 | 1332 | 681 | 449-50 | 1274-75 | 8 Bhāva . . | 13 Pramāthin . . | ... |
| 4377 | 1198 | 1333 | 682 | 450-51 | 1275-76 | 9 Yuvan . . | 14 Vikrama . . | 3 Jyēṣṭha . . |
| 4378 | 1199 | 1334 | 683 | 451-52 | *1276-77 | 10 Dhātṛi . . | 15 Vṛiṣa . . | ... |
| 4379 | 1200 | 1335 | 684 | 452-53 | 1277-78 | 11 Lāvata . . | 16 Chitrabhāna . . | 12 Phālguna . . |
| 4380 | 1201 | 1336 | 685 | 453-54 | 1278-79 | 12 Bahudhānya . . | 17 Subhāna . . | ... |
| 4381 | 1202 | 1337 | 686 | 454-55 | 1279-80 | 13 Pramāthin . . | 18 Tārava . . | ... |
| 4382 | 1203 | 1338 | 687 | 455-56 | *1280-81 | 14 Vikrama . . | 19 Pārthiva . . | 8 Kārtika . . |
| 4383 | 1204 | 1339 | 688 | 456-57 | 1281-82 | 15 Vṛiṣa . . | 20 Vyaya . . | ... |
| 4384 | 1205 | 1340 | 689 | 457-58 | 1282-83 | 16 Chitrabhāna . . | 21 Sarvajit . . | ... |
| 4385 | 1206 | 1341 | 690 | 458-59 | 1283-84 | 17 Subhāna . . | 22 Sarvadhārin . . | 5 Śrāvava . . |
| 4386 | 1207 | 1342 | 691 | 459-60 | *1284-85 | 18 Tārava . . | 23 Virōdhin . . | ... |
| 4387 | 1208 | 1343 | 692 | 460-61 | 1285-86 | 19 Pārthiva . . | 24 Vikṛita . . | ... |
| 4388 | 1209 | 1344 | 693 | 461-62 | 1286-87 | 20 Vyaya . . | 25 Khara . . | 1 Chaitra . . |
| 4389 | 1210 | 1345 | 694 | 462-63 | 1287-88 | 21 Sarvajit . . | 26 Nandana . . | ... |
| 4390 | 1211 | 1346 | 695 | 463-64 | *1288-89 | 22 Sarvadhārin . . | 27 Vijaya . . | 10 Pausa . . |
| 4391 | 1212 | 1347 | 696 | 464-65 | 1289-90 | 23 Virōdhin . . | 28 Jaya . . | ... |
| 4392 | 1213 | 1348 | 697 | 465-66 | 1290-91 | 24 Vikṛita . . | 29 Marmatha . . | ... |
| 4393 | 1214 | 1349 | 698 | 466-67 | 1291-92 | 25 Khara . . | 30 Duravukha . . | 6 Bhādrapada . . |
| 4394 | 1215 | 1350 | 699 | 467-68 | *1292-93 | 26 Nandana . . | 31 Hēmalamba . . | ... |
| 4395 | 1216 | 1351 | 700 | 468-69 | 1293-94 | 27 Vijaya . . | 32 Vilamba . . | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | | Kali. |
|---------------------|--------------|-------------------------------|---|--------------|---------------------------------------|------|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 BEGINS). | | | | |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-sukhrānti. | Day and month, A.D. | Week-day. | a (here = /, the index of the tithi). | | |
| 13 | 14 | 17 | 19 | 20 | 23 | 1 | |
| | | H. M. S. | | | | | |
| 26 Mar. (85) . . . | 3 Tues. . . | 8 55 30 | 5 Mar. (64) . . . | 3 Tues. . . | 162-6712 | 4371 | |
| 26 Mar. (85) . . . | 4 Wed. . . | 15 7 39 | 24 Mar. (83) . . . | 2 Mon. . . | 187-2536 | 4372 | |
| 26 Mar. (85) . . . | 5 Thurs. . . | 21 19 48 | 13 Mar. (72) . . . | 6 Fri. . . | 62-9765 | 4373 | |
| 26 Mar. (86) . . . | 0 Sat. . . | 3 31 57 | 2 Mar. (62) . . . | 4 Wed. . . | 277-3313 | 4374 | |
| 26 Mar. (85) . . . | 1 Sun. . . | 9 44 6 | 21 Mar. (80) . . . | 3 Tues. . . | 312-0137 | 4375 | |
| 26 Mar. (85) . . . | 2 Mon. . . | 15 56 15 | 10 Mar. (69) . . . | 0 Sat. . . | 187-7365 | 4376 | |
| 26 Mar. (85) . . . | 3 Tues. . . | 22 8 24 | 27 Feb. (58) . . . | 4 Wed. . . | 63-4593 | 4377 | |
| 26 Mar. (86) . . . | 5 Thurs. . . | 4 20 33 | 17 Mar. (77) . . . | 3 Tues. . . | 98-1417 | 4378 | |
| 26 Mar. (85) . . . | 6 Fri. . . | 10 32 42 | 7 Mar. (66) . . . | 1 Sun. . . | 312-4866 | 4379 | |
| 26 Mar. (85) . . . | 0 Sat. . . | 16 44 51 | 25 Mar. (84) . . . | 6 Fri. . . | 8-5470 | 4380 | |
| 26 Mar. (85) . . . | 1 Sun. . . | 22 57 0 | 15 Mar. (74) . . . | 4 Wed. . . | 222-9018 | 4381 | |
| 26 Mar. (86) . . . | 3 Tues. . . | 5 9 9 | 3 Mar. (63) . . . | 1 Sun. . . | 98-6246 | 4382 | |
| 26 Mar. (85) . . . | 4 Wed. . . | 11 21 18 | 22 Mar. (81) . . . | 0 Sat. . . | 133-3071 | 4383 | |
| 26 Mar. (85) . . . | 5 Thurs. . . | 17 33 27 | 11 Mar. (70) . . . | 4 Wed. . . | 9-0299 | 4384 | |
| 26 Mar. (86) . . . | 6 Fri. . . | 23 45 36 | 1 Mar. (60) . . . | 2 Mon. . . | 223-3847 | 4385 | |
| 26 Mar. (86) . . . | 1 Sun. . . | 5 57 45 | 19 Mar. (79) . . . | 1 Sun. . . | 258-0671 | 4386 | |
| 26 Mar. (85) . . . | 2 Mon. . . | 12 9 54 | 8 Mar. (67) . . . | 5 Thurs. . . | 133-7900 | 4387 | |
| 26 Mar. (85) . . . | 3 Tues. . . | 18 22 3 | 25 Feb. (56) . . . | 2 Mon. . . | 9-5127 | 4388 | |
| 27 Mar. (86) . . . | 5 Thurs. . . | 0 34 12 | 16 Mar. (75) . . . | 1 Sun. . . | 44-1962 | 4389 | |
| 26 Mar. (86) . . . | 6 Fri. . . | 6 46 21 | 5 Mar. (65) . . . | 6 Fri. . . | 258-5500 | 4390 | |
| 26 Mar. (85) . . . | 0 Sat. . . | 12 58 30 | 24 Mar. (83) . . . | 5 Thurs. . . | 293-2324 | 4391 | |
| 26 Mar. (85) . . . | 1 Sun. . . | 19 10 39 | 13 Mar. (72) . . . | 2 Mon. . . | 168-9552 | 4392 | |
| 27 Mar. (86) . . . | 3 Tues. . . | 1 22 48 | 2 Mar. (61) . . . | 6 Fri. . . | 44-6781 | 4393 | |
| 26 Mar. (86) . . . | 4 Wed. . . | 7 34 57 | 20 Mar. (80) . . . | 5 Thurs. . . | 79-3805 | 4394 | |
| 26 Mar. (85) . . . | 5 Thurs. . . | 13 47 6 | 10 Mar. (69) . . . | 3 Tues. . . | 293-7152 | 4395 | |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|-----------|---------------------|----------------------|---|
| Kali. | Saka. | Chaitrādi Vikrama. | Māchādi solar year in Bengal. | Kollam. | A.D. | JOYIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4396 | 1217 | 1352 | 701 | 469-70 | 1294-95 | 28 Jaya . . | 33 Vikārin . . | 3 Jyēshṭha . . |
| 4397 | 1218 | 1353 | 702 | 470-71 | 1295-96 | 29 Manmatha . . | 34 Śārvarin . . | ... |
| 4398 | 1219 | 1354 | 703 | 471-72 | *1296-97 | 30 Durmukha . . | 35 Plava . . | 11 Māgha . . |
| 4399 | 1220 | 1355 | 704 | 472-73 | 1297-98 | 31 Hēmalamba . . | 36 Śubhakṛit . . | ... |
| 4400 | 1221 | 1356 | 705 | 473-74 | 1298-99 | 32 Vilamba . . | 37 Śōbhana . . | ... |
| 4401 | 1222 | 1357 | 706 | 474-75 | 1299-1300 | 33 Vikārin . . | 38 Krōdhin . . | 8 Kārttika . . |
| 4402 | 1223 | 1358 | 707 | 475-76 | *1300-01 | 34 Śārvarin . . | 39 Viśvāvasu . . | ... |
| 4403 | 1224 | 1359 | 708 | 476-77 | 1301-02 | 35 Plava . . | 40 Parābhava . . | ... |
| 4404 | 1225 | 1360 | 709 | 477-78 | 1302-03 | 36 Śubhakṛit . . | 41 Plavaṅga . . | 4 Āshāḍha . . |
| 4405 | 1226 | 1361 | 710 | 478-79 | 1303-04 | 37 Śōbhana . . | 42 Kīlaka . . | ... |
| 4406 | 1227 | 1362 | 711 | 479-80 | *1304-05 | 38 Krōdhin . . | 43 Saumya . . | ... |
| 4407 | 1228 | 1363 | 712 | 480-81 | 1305-06 | 39 Viśvāvasu . . | 44 Sādhārṇa . . | 1 Chaitra . . |
| 4408 | 1229 | 1364 | 713 | 481-82 | 1306-07 | 40 Parābhava . . | 45 Virōdhakṛit . . | ... |
| 4409 | 1230 | 1365 | 714 | 482-83 | 1307-08 | 41 Plavaṅga . . | 46 Paridhāvin . . | 10 Pausa ‡ . . |
| 4410 | 1231 | 1366 | 715 | 483-84 | *1308-09 | 42 Kīlaka . . | 47 Pramādin . . | ... |
| 4411 | 1232 | 1367 | 716 | 484-85 | 1309-10 | 43 Saumya . . | 48 Ānanda . . | ... |
| 4412 | 1233 | 1368 | 717 | 485-86 | 1310-11 | 44 Sādhārṇa . . | 49 Rākhaṣa . . | 6 Bhādrapada . . |
| 4413 | 1234 | 1369 | 718 | 486-87 | 1311-12 | 45 Virōdhakṛit . . | 50 Anala . . | ... |
| 4414 | 1235 | 1370 | 719 | 487-88 | *1312-13 | 46 Paridhāvin . . | 51 Piṅgala . . | ... |
| 4415 | 1236 | 1371 | 720 | 488-89 | 1313-14 | 47 Pramādin . . | 52 Kālayukta . . | 3 Jyēshṭha . . |
| 4416 | 1237 | 1372 | 721 | 489-90 | 1314-15 | 48 Ānanda . . | 53 Siddhārthin . . | ... |
| 4417 | 1238 | 1373 | 722 | 490-91 | 1315-16 | 49 Rākhaṣa . . | 54 Raudra . . | 11 Māgha . . |
| 4418 | 1239 | 1374 | 723 | 491-92 | *1316-17 | 50 Anala . . | 55 Darmati . . | ... |
| 4419 | 1240 | 1375 | 724 | 492-93 | 1317-18 | 51 Piṅgala . . | 56 Dundubhi . . | ... |
| 4420 | 1241 | 1376 | 725 | 493-94 | 1318-19 | 52 Kālayukta . . | 57 Rudhīrōdgārin . . | 8 Kārttika . . |

‡ See "Remarks," p. 523, preceding this Table.

XC—contd.

| COMMENCEMENT OF THE | | | | | | |
|------------------------|-------------|--------------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha- sankrānti. | Day and month, A.D. | Week-day. | α (here = λ , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 26 Mar. (85) . . . | 6 Fri. . . | 19 59 15 | 27 Feb. (58) . . . | 0 Sat. . . | 169-4381 | 4396 |
| 27 Mar. (86) . . . | 1 Sun. . . | 2 11 24 | 18 Mar. (77) . . . | 6 Fri. . . | 204-1205 | 4397 |
| 26 Mar. (86) . . . | 2 Mon. . . | 8 23 33 | 6 Mar. (66) . . . | 3 Tues. . . | 79-8433 | 4398 |
| 26 Mar. (85) . . . | 3 Tues. . . | 14 35 42 | 25 Mar. (84) . . . | 2 Mon. . . | 114-5257 | 4399 |
| 26 Mar. (85) . . . | 4 Wed. . . | 20 47 51 | 15 Mar. (74) . . . | 0 Sat. . . | 328-8806 | 4400 |
| 27 Mar. (86) . . . | 6 Fri. . . | 3 0 0 | 4 Mar. (63) . . . | 4 Wed. . . | 204-6034 | 4401 |
| 26 Mar. (86) . . . | 0 Sat. . . | 9 12 9 | 22 Mar. (82) . . . | 3 Tues. . . | 239-2959 | 4402 |
| 26 Mar. (85) . . . | 1 Sun. . . | 15 24 18 | 11 Mar. (70) . . . | 0 Sat. . . | 115-0087 | 4403 |
| 26 Mar. (85) . . . | 2 Mon. . . | 21 36 27 | 1 Mar. (60) . . . | 5 Thur. . . | 329-3635 | 4404 |
| 27 Mar. (86) . . . | 4 Wed. . . | 3 48 36 | 19 Mar. (78) . . . | 3 Tues. . . | 25-4139 | 4405 |
| 26 Mar. (86) . . . | 5 Thur. . . | 10 0 45 | 8 Mar. (68) . . . | 1 Sun. . . | 239-7688 | 4406 |
| 26 Mar. (85) . . . | 6 Fri. . . | 16 12 54 | 25 Feb. (56) . . . | 5 Thur. . . | 115-4915 | 4407 |
| 26 Mar. (85) . . . | 0 Sat. . . | 22 25 3 | 16 Mar. (75) . . . | 4 Wed. . . | 150-1739 | 4408 |
| 27 Mar. (86) . . . | 2 Mon. . . | 4 37 12 | 5 Mar. (64) . . . | 1 Sun. . . | 25-8068 | 4409 |
| 26 Mar. (86) . . . | 3 Tues. . . | 10 40 21 | 23 Mar. (83) . . . | 0 Sat. . . | 60-5791 | 4410 |
| 26 Mar. (85) . . . | 4 Wed. . . | 17 1 30 | 13 Mar. (72) . . . | 5 Thur. . . | 274-9340 | 4411 |
| 26 Mar. (85) . . . | 5 Thur. . . | 23 13 39 | 2 Mar. (61) . . . | 2 Mon. . . | 150-6569 | 4412 |
| 27 Mar. (86) . . . | 0 Sat. . . | 5 25 48 | 21 Mar. (80) . . . | 1 Sun. . . | 185-3395 | 4413 |
| 26 Mar. (86) . . . | 1 Sun. . . | 11 37 57 | 9 Mar. (69) . . . | 5 Thur. . . | 61-0621 | 4414 |
| 26 Mar. (85) . . . | 2 Mon. . . | 17 50 6 | 27 Feb. (58) . . . | 3 Tues. . . | 275-4169 | 4415 |
| 27 Mar. (86) . . . | 4 Wed. . . | 0 2 15 | 18 Mar. (77) . . . | 2 Mon. . . | 310-0993 | 4416 |
| 27 Mar. (86) . . . | 5 Thur. . . | 6 14 24 | 7 Mar. (66) . . . | 6 Fri. . . | 185-8221 | 4417 |
| 26 Mar. (86) . . . | 6 Fri. . . | 12 26 33 | 25 Mar. (85) . . . | 5 Thur. . . | 220-5045 | 4418 |
| 26 Mar. (85) . . . | 0 Sat. . . | 18 38 42 | 14 Mar. (73) . . . | 2 Mon. . . | 96-2274 | 4419 |
| 27 Mar. (86) . . . | 2 Mon. . . | 0 50 51 | 4 Mar. (63) . . . | 0 Sat. . . | 310-5822 | 4420 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|---------------------|-------------------------------|---------|----------|--------------------|------------------|---|
| Kali. | Śaka. | Chaitra-di Vikrama. | Māghadi solar year in Bengal. | Kollam. | A.D. | Jovian Sārvatsara. | | Mean intercalated (adhika) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4421 | 1242 | 1377 | 726 | 494-95 | 1319-20 | 53 Siddhārthina . | 58 Raktāksha . | ... |
| 4422 | 1243 | 1378 | 727 | 495-96 | *1320-21 | 54 Randra . | 59 Krōdhana . | ... |
| 4423 | 1244 | 1379 | 728 | 496-97 | 1321-22 | 55 Darmati . | 60 Kshaya . | 4 Āshādha . |
| 4424 | 1245 | 1380 | 729 | 497-98 | 1322-23 | 56 Dandabhi . | 1 Prabhava . | ... |
| 4425 | 1246 | 1381 | 730 | 498-99 | 1323-24 | 57 Rudhirōdgārin . | 2 Vibhava . | ... |
| 4426 | 1247 | 1382 | 731 | 499-500 | *1324-25 | 58 Raktāksha . | 3 Śukla . | 1 Chaitra . |
| 4427 | 1248 | 1383 | 732 | 500-01 | 1325-26 | 59 Krōdhana . | 4 Pramōda . | ... |
| 4428 | 1249 | 1384 | 733 | 501-02 | 1326-27 | 60 Kshaya . | 5 Prajāpati . | 9 Mārgaśīra . |
| 4429 | 1250 | 1385 | 734 | 502-03 | 1327-28 | 1 Prabhava . | 6 Aṅgīra . | ... |
| 4430 | 1251 | 1386 | 735 | 503-04 | *1328-29 | 2 Vibhava . | 7 Śrīmukha . | ... |
| 4431 | 1252 | 1387 | 736 | 504-05 | 1329-30 | 3 Śukla . | 8 Bhāva† . | 6 Bhādrapada . |
| 4432 | 1253 | 1388 | 737 | 505-06 | 1330-31 | 4 Pramōda . | 10 Dhātṛi . | ... |
| 4433 | 1254 | 1389 | 738 | 506-07 | 1331-32 | 5 Prajāpati . | 11 Iśvara . | ... |
| 4434 | 1255 | 1390 | 739 | 507-08 | *1332-33 | 6 Aṅgīra . | 12 Bahudhānya . | 2 Vaiśākha . |
| 4435 | 1256 | 1391 | 740 | 508-09 | 1333-34 | 7 Śrīmukha . | 13 Pramāthina . | ... |
| 4436 | 1257 | 1392 | 741 | 509-10 | 1334-35 | 8 Bhāva . | 14 Vikrama . | 11 Māgha . |
| 4437 | 1258 | 1393 | 742 | 510-11 | 1335-36 | 9 Yuvan . | 15 Vṛiṣha . | ... |
| 4438 | 1259 | 1394 | 743 | 511-12 | *1336-37 | 10 Dhātṛi . | 16 Chitrabhānu . | ... |
| 4439 | 1260 | 1395 | 744 | 512-13 | 1337-38 | 11 Iśvara . | 17 Subhānu . | 7 Āśvina . |
| 4440 | 1261 | 1396 | 745 | 513-14 | 1338-39 | 12 Bahudhānya . | 18 Tāra . | ... |
| 4441 | 1262 | 1397 | 746 | 514-15 | 1339-40 | 13 Pramāthina . | 19 Pārthiva . | ... |
| 4442 | 1263 | 1398 | 747 | 515-16 | *1340-41 | 14 Vikrama . | 20 Vyaya . | 4 Āshādha . |
| 4443 | 1264 | 1399 | 748 | 516-17 | 1341-42 | 15 Vṛiṣha . | 21 Sarvajit . | ... |
| 4444 | 1265 | 1400 | 749 | 517-18 | 1342-43 | 16 Chitrabhānu . | 22 Sarvadhāra . | 12 Phālguna . |
| 4445 | 1266 | 1401 | 750 | 518-19 | 1343-44 | 17 Subhānu . | 23 Virāṭina . | ... |

† 9 Yuvan was suppressed in the north by the mean system. By the "true" system K.Y. 4431 (expired), A.D. 1339-41, was called "Yuvan," and 10 Dhātṛi was suppressed. The next year was 11 Iśvara by both systems.

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|--|-------|
| MEAN SOLAR YEAR. | | | MEAN LENT-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-samkrānti. | Day and month, A.D. | Week-day. | <i>a</i> (here = <i>t</i> , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | 1 |
| 27 Mar. (86) . . . | 3 Tues. . . | 7 3 0 | 22 Mar. (81) . . . | 5 Thur. . . | 6-6326 | 4421 |
| 26 Mar. (86) . . . | 4 Wed. . . | 13 15 9 | 11 Mar. (71) . . . | 3 Tues. . . | 220-9874 | 4422 |
| 26 Mar. (85) . . . | 5 Thur. . . | 19 27 18 | 28 Feb. (59) . . . | 0 Sat. . . | 96-7103 | 4423 |
| 27 Mar. (86) . . . | 0 Sat. . . | 1 39 27 | 19 Mar. (78) . . . | 6 Fri. . . | 131-3926 | 4424 |
| 27 Mar. (86) . . . | 1 Sun. . . | 7 51 36 | 8 Mar. (67) . . . | 3 Tues. . . | 7-1155 | 4425 |
| 26 Mar. (86) . . . | 2 Mon. . . | 14 3 45 | 26 Feb. (57) . . . | 1 Sun. . . | 221-4703 | 4426 |
| 26 Mar. (85) . . . | 3 Tues. . . | 20 15 54 | 16 Mar. (75) . . . | 0 Sat. . . | 256-1527 | 4427 |
| 27 Mar. (86) . . . | 5 Thur. . . | 2 28 3 | 5 Mar. (64) . . . | 4 Wed. . . | 131-8755 | 4428 |
| 27 Mar. (86) . . . | 6 Fri. . . | 8 40 12 | 24 Mar. (83) . . . | 3 Tues. . . | 166-5579 | 4429 |
| 26 Mar. (86) . . . | 0 Sat. . . | 14 52 21 | 12 Mar. (72) . . . | 0 Sat. . . | 42-2808 | 4430 |
| 26 Mar. (85) . . . | 1 Sun. . . | 21 4 30 | 2 Mar. (61) . . . | 5 Thur. . . | 256-6356 | 4431 |
| 27 Mar. (86) . . . | 3 Tues. . . | 3 16 39 | 21 Mar. (80) . . . | 4 Wed. . . | 231-4180 | 4432 |
| 27 Mar. (86) . . . | 4 Wed. . . | 9 28 48 | 10 Mar. (69) . . . | 1 Sun. . . | 167-0409 | 4433 |
| 26 Mar. (86) . . . | 5 Thur. . . | 15 40 57 | 27 Feb. (58) . . . | 5 Thur. . . | 42-7637 | 4434 |
| 26 Mar. (85) . . . | 6 Fri. . . | 21 53 6 | 17 Mar. (76) . . . | 4 Wed. . . | 77-4460 | 4435 |
| 27 Mar. (86) . . . | 1 Sun. . . | 4 5 15 | 7 Mar. (65) . . . | 2 Mon. . . | 291-8009 | 4436 |
| 27 Mar. (86) . . . | 2 Mon. . . | 10 17 24 | 25 Mar. (85) . . . | 1 Sun. . . | 326-4833 | 4437 |
| 26 Mar. (86) . . . | 3 Tues. . . | 16 29 33 | 14 Mar. (74) . . . | 5 Thur. . . | 202-2062 | 4438 |
| 26 Mar. (85) . . . | 4 Wed. . . | 22 41 42 | 3 Mar. (62) . . . | 2 Mon. . . | 77-9289 | 4439 |
| 27 Mar. (86) . . . | 6 Fri. . . | 4 53 51 | 22 Mar. (81) . . . | 1 Sun. . . | 112-6114 | 4440 |
| 27 Mar. (86) . . . | 0 Sat. . . | 11 6 0 | 12 Mar. (71) . . . | 6 Fri. . . | 326-9662 | 4441 |
| 26 Mar. (86) . . . | 1 Sun. . . | 17 18 9 | 29 Feb. (60) . . . | 3 Tues. . . | 202-6890 | 4442 |
| 26 Mar. (85) . . . | 2 Mon. . . | 23 30 18 | 19 Mar. (78) . . . | 2 Mon. . . | 237-3714 | 4443 |
| 27 Mar. (86) . . . | 4 Wed. . . | 5 42 27 | 8 Mar. (67) . . . | 6 Fri. . . | 113-0943 | 4444 |
| 27 Mar. (86) . . . | 5 Thur. . . | 11 54 36 | 27 Mar. (86) . . . | 5 Thur. . . | 147-7767 | 4445 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adāika</i>) lunar month. |
|------------------|-------|--------------------|---------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Śaka. | Chaitrādi Vikrama. | Māhādī solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4446 | 1267 | 1402 | 751 | 519-20 | *1344-45 | 18 Tārāga . . | 24 Vikrīta . . | ... |
| 4447 | 1268 | 1403 | 752 | 520-21 | 1345-46 | 19 Pārthiva . . | 25 Khara . . | 9 Mārgaśīra . |
| 4448 | 1269 | 1404 | 753 | 521-22 | 1346-47 | 20 Vyaya . . | 26 Nandana . . | ... |
| 4449 | 1270 | 1405 | 754 | 522-23 | 1347-48 | 21 Sarvajit . . | 27 Vijaya . . | ... |
| 4450 | 1271 | 1406 | 755 | 523-24 | *1348-49 | 22 Sarvadhārin . | 28 Jaya . . | 6 Bhādrapada . |
| 4451 | 1272 | 1407 | 756 | 524-25 | 1349-50 | 23 Virōdhin . . | 29 Mammatha . . | ... |
| 4452 | 1273 | 1408 | 757 | 525-26 | 1350-51 | 24 Vikrīta . . | 30 Darmukha . . | ... |
| 4453 | 1274 | 1409 | 758 | 526-27 | 1351-52 | 25 Khara . . | 31 Hōmalamba . . | 2 Vaiśākha . . |
| 4454 | 1275 | 1410 | 759 | 527-28 | *1352-53 | 26 Nandana . . | 32 Vilamba . . | ... |
| 4455 | 1276 | 1411 | 760 | 528-29 | 1353-54 | 27 Vijaya . . | 33 Vikārin . . | 11 Māgha . . |
| 4456 | 1277 | 1412 | 761 | 529-30 | 1354-55 | 28 Jaya . . | 34 Śārvarin . . | ... |
| 4457 | 1278 | 1413 | 762 | 530-31 | 1355-56 | 29 Mammatha . . | 35 Plava . . | ... |
| 4458 | 1279 | 1414 | 763 | 531-32 | *1356-57 | 30 Darmukha . . | 36 Śubhakṛit . . | 7 Āśvina . . |
| 4459 | 1280 | 1415 | 764 | 532-33 | 1357-58 | 31 Hōmalamba . . | 37 Śōbhana . . | ... |
| 4460 | 1281 | 1416 | 765 | 533-34 | 1358-59 | 32 Vilamba . . | 38 Krōdhin . . | ... |
| 4461 | 1282 | 1417 | 766 | 534-35 | 1359-60 | 33 Vikārin . . | 39 Viśvāvasa . . | 4 Ashāḍha . . |
| 4462 | 1283 | 1418 | 767 | 535-36 | *1360-61 | 34 Śārvarin . . | 40 Parābhava . . | ... |
| 4463 | 1284 | 1419 | 768 | 536-37 | 1361-62 | 35 Plava . . | 41 Plavaṅga . . | 12 Phālguna . . |
| 4464 | 1285 | 1420 | 769 | 537-38 | 1362-63 | 36 Śubhakṛit . . | 42 Kilaka . . | ... |
| 4465 | 1286 | 1421 | 770 | 538-39 | 1363-64 | 37 Śōbhana . . | 43 Saumya . . | ... |
| 4466 | 1287 | 1422 | 771 | 539-40 | *1364-65 | 38 Krōdhin . . | 44 Sādhāraṇa . . | 9 Mārgaśīra . |
| 4467 | 1288 | 1423 | 772 | 540-41 | 1365-66 | 39 Viśvāvasa . . | 45 Virōdhakṛit . . | ... |
| 4468 | 1289 | 1424 | 773 | 541-42 | 1366-67 | 40 Parābhava . . | 46 Parādhāvin . . | ... |
| 4469 | 1290 | 1425 | 774 | 542-43 | 1367-68 | 41 Plavaṅga . . | 47 Pramāḍha . . | 5 Śrāvaṇa . . |
| 4470 | 1291 | 1426 | 775 | 543-44 | *1368-69 | 42 Kilaka . . | 48 Ānanda . . | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | a (here = t , the index of the $t(25)$). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 26 Mar. (86) . . . | 6 Fri. . . | 18 6 43 | 15 Mar. (75) . . . | 2 Mon. . . | 23-4995 | 4446 |
| 27 Mar. (86) . . . | 1 Sun. . . | 0 18 54 | 5 Mar. (64) . . . | 0 Sat. . . | 237-8543 | 4447 |
| 27 Mar. (86) . . . | 2 Mon. . . | 6 31 3 | 24 Mar. (83) . . . | 6 Fri. . . | 272-6367 | 4448 |
| 27 Mar. (86) . . . | 3 Tues. . . | 12 43 12 | 13 Mar. (72) . . . | 3 Tues. . . | 148-2595 | 4449 |
| 26 Mar. (86) . . . | 4 Wed. . . | 18 55 21 | 1 Mar. (61) . . . | 0 Sat. . . | 23-9824 | 4450 |
| 27 Mar. (86) . . . | 6 Fri. . . | 1 7 30 | 20 Mar. (79) . . . | 6 Fri. . . | 58-6648 | 4451 |
| 27 Mar. (86) . . . | 0 Sat. . . | 7 19 39 | 10 Mar. (69) . . . | 4 Wed. . . | 273-0197 | 4452 |
| 27 Mar. (86) . . . | 1 Sun. . . | 13 31 48 | 27 Feb. (58) . . . | 1 Sun. . . | 148-7424 | 4453 |
| 26 Mar. (86) . . . | 2 Mon. . . | 19 43 57 | 17 Mar. (77) . . . | 0 Sat. . . | 183-4248 | 4454 |
| 27 Mar. (86) . . . | 4 Wed. . . | 1 56 6 | 6 Mar. (65) . . . | 4 Wed. . . | 59-1477 | 4455 |
| 27 Mar. (86) . . . | 5 Thur. . . | 8 8 16 | 25 Mar. (84) . . . | 3 Tues. . . | 93-8300 | 4456 |
| 27 Mar. (86) . . . | 6 Fri. . . | 14 20 24 | 15 Mar. (74) . . . | 1 Sun. . . | 308-1849 | 4457 |
| 26 Mar. (86) . . . | 0 Sat. . . | 20 32 33 | 3 Mar. (63) . . . | 5 Thur. . . | 183-9077 | 4458 |
| 27 Mar. (86) . . . | 2 Mon. . . | 2 44 42 | 22 Mar. (81) . . . | 4 Wed. . . | 218-5902 | 4459 |
| 27 Mar. (86) . . . | 3 Tues. . . | 8 56 51 | 11 Mar. (70) . . . | 1 Sun. . . | 94-3129 | 4460 |
| 27 Mar. (86) . . . | 4 Wed. . . | 15 9 0 | 1 Mar. (60) . . . | 6 Fri. . . | 308-6678 | 4461 |
| 26 Mar. (86) . . . | 5 Thur. . . | 21 21 9 | 18 Mar. (78) . . . | 4 Wed. . . | 4-7182 | 4462 |
| 27 Mar. (86) . . . | 0 Sat. . . | 3 33 18 | 8 Mar. (67) . . . | 2 Mon. . . | 219-0730 | 4463 |
| 27 Mar. (86) . . . | 1 Sun. . . | 9 45 27 | 27 Mar. (86) . . . | 1 Sun. . . | 253-7554 | 4464 |
| 27 Mar. (86) . . . | 2 Mon. . . | 15 57 36 | 16 Mar. (75) . . . | 5 Thur. . . | 129-4783 | 4465 |
| 26 Mar. (86) . . . | 3 Tues. . . | 22 9 45 | 4 Mar. (64) . . . | 2 Mon. . . | 5-2011 | 4466 |
| 27 Mar. (86) . . . | 5 Thur. . . | 4 21 54 | 23 Mar. (82) . . . | 1 Sun. . . | 39-8826 | 4467 |
| 27 Mar. (86) . . . | 6 Fri. . . | 10 34 3 | 13 Mar. (72) . . . | 6 Fri. . . | 234-2383 | 4468 |
| 27 Mar. (86) . . . | 0 Sat. . . | 16 46 12 | 2 Mar. (61) . . . | 3 Tues. . . | 129-9612 | 4469 |
| 26 Mar. (86) . . . | 1 Sun. . . | 22 58 21 | 20 Mar. (80) . . . | 2 Mon. . . | 164-6435 | 4470 |

TABLE

| CONCURRENT YEAR. | | | | | | | | Mean intercalated (<i>adhika</i>) lunar month. |
|------------------|-------|--------------------|----------------------------------|---------|----------|---------------------|---------------------|---|
| Kali. | Saka. | Chaitradī Vikramā. | Mīśra's solar year in Bengal. | Kollam. | A.D. | JOVIAN SAMVATSARA. | | |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4471 | 1292 | 1427 | 776 | 544-45 | 1369-70 | 43 Saumya . | 49 Rākshasa . | ... |
| 4472 | 1293 | 1428 | 777 | 545-46 | 1370-71 | 44 Śādhārāṇa . | 50 Anala . | 2 Vaiśākha . |
| 4473 | 1294 | 1429 | 778 | 546-47 | 1371-72 | 45 Virōdhakṛit . | 51 Piṅgala . | ... |
| 4474 | 1295 | 1430 | 779 | 547-48 | *1372-73 | 46 Paridhāvin . | 52 Kālayukta . | 10 Pausa . |
| 4475 | 1296 | 1431 | 780 | 548-49 | 1373-74 | 47 Pramādin . | 53 Siddhārthin . | ... |
| 4476 | 1297 | 1432 | 781 | 549-50 | 1374-75 | 48 Ānanda . | 54 Raudra . | ... |
| 4477 | 1298 | 1433 | 782 | 550-51 | 1375-76 | 49 Rākshasa . | 55 Durdanti . | 7 Āśvina . |
| 4478 | 1299 | 1434 | 783 | 551-52 | *1376-77 | 50 Anala . | 56 Dundubhi . | ... |
| 4479 | 1300 | 1435 | 784 | 552-53 | 1377-78 | 51 Piṅgala . | 57 Rudhīrōdgārin . | ... |
| 4480 | 1301 | 1436 | 785 | 553-54 | 1378-79 | 52 Kālayukta . | 58 Raktāksha . | 3 Jyēṣṭha . |
| 4481 | 1302 | 1437 | 786 | 554-55 | 1379-80 | 53 Siddhārthin . | 59 Krōdhana . | ... |
| 4482 | 1303 | 1438 | 787 | 555-56 | *1380-81 | 54 Raudra . | 60 Kshaya . | 12 Phālguna . |
| 4483 | 1304 | 1439 | 788 | 556-57 | 1381-82 | 55 Durdanti . | 1 Prabhava . | ... |
| 4484 | 1305 | 1440 | 789 | 557-58 | 1382-83 | 56 Dundubhi . | 2 Vibhava . | ... |
| 4485 | 1306 | 1441 | 790 | 558-59 | 1383-84 | 57 Rudhīrōdgārin . | 3 Śukla . | 9 Mārgaśīra . |
| 4486 | 1307 | 1442 | 791 | 559-60 | *1384-85 | 58 Raktāksha . | 4 Pramōda . | ... |
| 4487 | 1308 | 1443 | 792 | 560-61 | 1385-86 | 59 Krōdhana . | 5 Prajāpati . | ... |
| 4488 | 1309 | 1444 | 793 | 561-62 | 1386-87 | 60 Kshaya . | 6 Āngīra . | 5 Śrāvana . |
| 4489 | 1310 | 1445 | 794 | 562-63 | 1387-88 | 1 Prabhava . | 7 Śrimukha . | ... |
| 4490 | 1311 | 1446 | 795 | 563-64 | *1388-89 | 2 Vibhava . | 8 Bhāva . | ... |
| 4491 | 1312 | 1447 | 796 | 564-65 | 1389-90 | 3 Śukla . | 9 Yava . | 2 Vaiśākha . |
| 4492 | 1313 | 1448 | 797 | 565-66 | 1390-91 | 4 Pramōda . | 10 Dhātṛi . | ... |
| 4493 | 1314 | 1449 | 798 | 566-67 | 1391-92 | 5 Prajāpati . | 11 Īvara . | 10 Pausa . |
| 4494 | 1315 | 1450 | 799 | 567-68 | *1392-93 | 6 Āngīra . | 12 Bahudhānya . | ... |
| 4495 | 1316 | 1451 | 800 | 568-69 | 1393-94 | 7 Śrimukha . | 13 Pramāthin . | ... |

XC—*contd.*

| COMMENCEMENT OF THE | | | | | | |
|---------------------|-------------|-----------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day. | Time of mean Mēṣa-sukrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 27 Mar. (86) . . . | 3 Tues. . . | 5 10 30 | 9 Mar. (68) . . . | 6 Fri. . . | 40-3954 | 4471 |
| 27 Mar. (86) . . . | 4 Wed. . . | 11 22 39 | 27 Feb. (58) . . . | 4 Wed. . . | 254-7212 | 4472 |
| 27 Mar. (86) . . . | 5 Thur. . . | 17 34 48 | 18 Mar. (77) . . . | 3 Tues. . . | 289-4036 | 4473 |
| 26 Mar. (86) . . . | 6 Fri. . . | 23 46 57 | 6 Mar. (66) . . . | 0 Sat. . . | 165-1264 | 4474 |
| 27 Mar. (86) . . . | 1 Sun. . . | 5 59 6 | 25 Mar. (84) . . . | 6 Fri. . . | 199-8088 | 4475 |
| 27 Mar. (86) . . . | 2 Mon. . . | 12 11 15 | 14 Mar. (73) . . . | 3 Tues. . . | 75-5317 | 4476 |
| 27 Mar. (86) . . . | 3 Tues. . . | 18 23 24 | 4 Mar. (63) . . . | 1 Sun. . . | 289-8864 | 4477 |
| 27 Mar. (87) . . . | 5 Thur. . . | 0 35 33 | 22 Mar. (82) . . . | 0 Sat. . . | 324-5689 | 4478 |
| 27 Mar. (86) . . . | 6 Fri. . . | 6 47 42 | 11 Mar. (70) . . . | 4 Wed. . . | 200-2917 | 4479 |
| 27 Mar. (86) . . . | 0 Sat. . . | 12 59 51 | 28 Feb. (59) . . . | 1 Sun. . . | 76-0146 | 4480 |
| 27 Mar. (86) . . . | 1 Sun. . . | 19 12 0 | 19 Mar. (78) . . . | 0 Sat. . . | 110-6909 | 4481 |
| 27 Mar. (87) . . . | 3 Tues. . . | 1 24 9 | 8 Mar. (68) . . . | 5 Thur. . . | 325-0518 | 4482 |
| 27 Mar. (86) . . . | 4 Wed. . . | 7 36 18 | 26 Mar. (85) . . . | 3 Tues. . . | 21-1622 | 4483 |
| 27 Mar. (86) . . . | 5 Thur. . . | 13 48 27 | 16 Mar. (75) . . . | 1 Sun. . . | 235-4571 | 4484 |
| 27 Mar. (86) . . . | 6 Fri. . . | 20 0 36 | 5 Mar. (64) . . . | 5 Thur. . . | 111-1798 | 4485 |
| 27 Mar. (87) . . . | 1 Sun. . . | 2 12 45 | 23 Mar. (83) . . . | 4 Wed. . . | 145-8623 | 4486 |
| 27 Mar. (86) . . . | 2 Mon. . . | 8 24 54 | 12 Mar. (71) . . . | 1 Sun. . . | 21-5851 | 4487 |
| 27 Mar. (86) . . . | 3 Tues. . . | 14 37 3 | 2 Mar. (61) . . . | 5 Fri. . . | 235-9399 | 4488 |
| 27 Mar. (86) . . . | 4 Wed. . . | 20 49 12 | 21 Mar. (80) . . . | 5 Thur. . . | 270-6223 | 4489 |
| 27 Mar. (87) . . . | 6 Fri. . . | 3 1 21 | 9 Mar. (69) . . . | 2 Mon. . . | 146-3452 | 4490 |
| 27 Mar. (86) . . . | 0 Sat. . . | 9 13 30 | 26 Feb. (57) . . . | 6 Fri. . . | 22-0680 | 4491 |
| 27 Mar. (86) . . . | 1 Sun. . . | 15 25 39 | 17 Mar. (76) . . . | 5 Thur. . . | 56-7503 | 4492 |
| 27 Mar. (86) . . . | 2 Mon. . . | 21 37 48 | 7 Mar. (66) . . . | 3 Tues. . . | 271-1052 | 4493 |
| 27 Mar. (87) . . . | 4 Wed. . . | 3 49 57 | 25 Mar. (85) . . . | 2 Mon. . . | 305-7876 | 4494 |
| 27 Mar. (86) . . . | 5 Thur. . . | 10 2 6 | 14 Mar. (73) . . . | 6 Fri. . . | 181-5104 | 4495 |

TABLE

| CONCURRENT YEAR. | | | | | | | | |
|------------------|-------|-------------------|------------------------------|---------|-----------|--------------------|--------------------|--|
| Kali. | Śaka. | Chakrādi Vikramā. | Mīśādi solar year in Pongal. | Kollam. | A.D. | JYOTIS SAMVATSARA. | | Mean intercalated (<i>adhika</i>) lunar month. |
| | | | | | | Southern system. | Northern system. | |
| 1 | 2 | 3 | 3a | 4 | 5 | 6 | 7 | 8a |
| 4486 | 1317 | 1452 | 801 | 569-70 | 1394-95 | 8 Bhāva . . | 14 Vikrama . . | 7 Āsvina . . |
| 4497 | 1318 | 1453 | 802 | 570-71 | 1395-96 | 9 Yavan . . | 15 Vriśa . . | ... |
| 4498 | 1319 | 1454 | 803 | 571-72 | *1396-97 | 10 Dhātṛi . . | 16 Chitrabhānu . . | ... |
| 4499 | 1320 | 1455 | 804 | 572-73 | 1397-98 | 11 Īśara . . | 17 Subhānu . . | 3 Jyēṣṭha . . |
| 4500 | 1321 | 1456 | 805 | 573-74 | 1398-99 | 12 Bahubhānu . . | 18 Tīrṇa . . | ... |
| 4501 | 1322 | 1457 | 806 | 574-75 | 1399-1400 | 13 Pramāthin . . | 19 Pārthiva . . | 12 Phālguna . . |
| 4502 | 1323 | 1458 | 807 | 575-76 | *1400-01 | 14 Vikrama . . | 20 Vvaya . . | ... |

XC—concl'd.

| COMMENCEMENT OF THE | | | | | | |
|---------------------|--------------|-------------------------------|---|-------------|---|-------|
| MEAN SOLAR YEAR. | | | MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS). | | | Kali. |
| Day and month, A.D. | Week-day | Time of mean Mēsha-saṅkrānti. | Day and month, A.D. | Week-day. | α (here = t , the index of the <i>tithi</i>). | |
| 13 | 14 | 17 | 19 | 20 | 23 | |
| | | H. M. S. | | | | |
| 27 Mar. (86) . . . | 6 Fri. . . | 16 14 15 | 3 Mar. (62) . . . | 3 Tues. . . | 57-2333 | 4496 |
| 27 Mar. (86) . . . | 0 Sat. . . | 22 26 24 | 22 Mar. (81) . . . | 2 Mon. . . | 91-9157 | 4497 |
| 27 Mar. (87) . . . | 2 Mon. . . | 4 38 33 | 11 Mar. (71) . . . | 0 Sat. . . | 306-2704 | 4498 |
| 27 Mar. (86) . . . | 3 Tues. . . | 10 50 42 | 28 Feb. (59) . . . | 4 Wed. . . | 181-0933 | 4499 |
| 27 Mar. (86) . . . | 4 Wed. . . | 17 2 51 | 19 Mar. (78) . . . | 3 Tues. . . | 216-6757 | 4500 |
| 27 Mar. (86) . . . | 5 Thurs. . . | 23 15 0 | 8 Mar. (67) . . . | 0 Sat. . . | 92-3986 | 4501 |
| 27 Mar. (87) . . . | 0 Sat. . . | 5 27 9 | 26 Mar. (86) . . . | 6 Fri. . . | 127-0810 | 4502 |

TABLE XCI.

DERIVATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE BRAHMA-SIDDHĀNTA, WITH INCREASE OF "a" AT EACH SAMKRĀNTI.

| Mean luni-solar month, ending after the second of the two solar samkrāntis connected with it. | At the mean solar samkrānti. | Collective duration in time, and collective increase of "a" from mean Mīsha-samkrānti to the several samkrāntis. | | | |
|---|------------------------------------|--|-----------|----------|-----------|
| | | Day. | Week-day. | H. M. S. | a |
| 1 | 2 | 3 | | | 4 |
| 1 Chaitra | { Mīna-samk. (of previous year). | 0 | 0 | 0 0 0 | 0 |
| 2 Vaiśākha | { Mīsha-samk. | 30 | (2) | 10 31 0½ | 307-3462 |
| 3 Jyēṣṭha | { Vṛishabha-samk. | 60 | (4) | 21 2 1½ | 614-6983 |
| 4 Āshāḍha | { Mithuna-samk. | 91 | (0) | 7 33 2½ | 922-0476 |
| 5 Śrāvaṇa | { Karka-samk. | 121 | (2) | 18 4 3 | 1229-3966 |
| 6 Bhādrapada | { Siṅha-samk. | 152 | (5) | 4 35 3½ | 1536-7458 |
| 7 Āśvina | { Kanyā-samk. | 182 | (0) | 15 6 4½ | 1844-0040 |
| 8 Kārtika | { Tulā-samk. | 213 | (3) | 1 37 5½ | 2151-4441 |
| 9 Mārgaśīra | { Vṛiśchika-samk. | 243 | (5) | 12 8 6 | 2458-7933 |
| 10 Pausa | { Dhanu-samk. | 273 | (0) | 22 39 6½ | 2766-1424 |
| 11 Māgha | { Makara-samk. | 304 | (3) | 9 10 7½ | 3073-4916 |
| 12 Phālguna | { Kumbha-samk. | 334 | (5) | 19 41 8½ | 3380-8407 |
| 1 Chaitra (of following year). | { Mīna-samk. | 365 | (1) | 6 12 9 | 3688-1899 |
| | { Mīsha-samk. (of following year). | | | | |

The duration of each mean solar month is $30^d 10^h 31^m 04^s$; and in this time the mean moon's increase of distance from mean sun (our α), in measurement by 10,000ths of circle, is 307-349156595.

A samkrānti occurs at the moment when the mean sun enters a zodiacal sign.

TABLE XCII.

CENTURY-TABLE.

VALUE OF " a " ($=a''$) AT BEGINNING OF CENTURIES K.Y., i.e. AT MEAN SUNRISE ON DAY OF OCCURRENCE OF MEAN MĒSHA-SAMKRĀNTI (MEAN SUN AT 0°) IN FIRST YEAR OF CENTURY. [CENTURIES 38, 44, WERE DEFECTIVE; THE REST COMMON.]

| Beginning of K.Y. century. | Beginning in A.D. | Week-day. | a ($=f$). |
|----------------------------|-------------------|-----------|---------------|
| 37 | 599 | (0) | 6228-4770 |
| 38 | 699 | (0) | 5100-2761 |
| 39 | 799 | (6) | 3633-6433 |
| 40 | 899 | (6) | 2505-5425 |
| 41 | 999 | (6) | 1377-4416 |
| 42 | 1099 | (6) | 249-3408 |
| 43 | 1199 | (6) | 9121-2399 |
| 44 | 1299 | (6) | 7993-1391 |
| 45 | 1399 | (5) | 6526-4063 |

For odd years of centuries use the *Siddhānta-Śirōmaṇi* Table LVII-B above.

TABLE XCIII.

MEAN SUNRISE VALUES OF " a " (DISTANCE OF MEAN MOON FROM MEAN SUN) IN 10,000THS OF CIRCLE FOR A MONTH PREVIOUS TO THE DAY ON WHICH MEAN MĒSHA-SAMKRĀNTI OCCURRED.

| Interval of days from mean Mēsha-samkrānti day. | Week-day. | a (mean sunrise value). | Interval of days from mean Mēsha-samkrānti day. | Week-day. | a (mean sunrise value). |
|---|-----------|---------------------------|---|-----------|---------------------------|
| 1 | 2 | 3 | 1 | 2 | 3 |
| 31 | (4) | 9502-4085 | 15 | (6) | 4920-5202 |
| 30 | (5) | 9841-0404 | 14 | (0) | 5259-1522 |
| 29 | (6) | 179-6724 | 13 | (1) | 5597-7842 |
| 28 | (0) | 518-3044 | 12 | (2) | 5936-4162 |
| 27 | (1) | 856-9364 | 11 | (3) | 6275-0482 |
| 26 | (2) | 1195-5684 | 10 | (4) | 6613-6801 |
| 25 | (3) | 1534-2004 | 9 | (5) | 6952-3121 |
| 24 | (4) | 1872-8324 | 8 | (6) | 7290-9441 |
| 23 | (5) | 2211-4643 | 7 | (0) | 7629-5761 |
| 22 | (6) | 2550-0963 | 6 | (1) | 7968-2081 |
| 21 | (0) | 2888-7283 | 5 | (2) | 8306-8401 |
| 20 | (1) | 3227-3603 | 4 | (3) | 8645-4721 |
| 19 | (2) | 3565-9923 | 3 | (4) | 8984-1040 |
| 18 | (3) | 3904-6243 | 2 | (5) | 9322-7360 |
| 17 | (4) | 4243-2563 | 1 | (6) | 9661-3680 |
| 16 | (5) | 4581-8882 | 0 | (0) | 0-0 |

The use of this Table is explained in Example 2 of this article, and in Example 1 of article on the *First Ārya-Siddhānta*, mean system above.

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TABLE XCIV.

TIME-EQUIVALENTS OF THE TITHI ("a" or "t"), NAKSHATRA ("n"), AND YŌGA ("y") UNITS.

In very close cases it is sometimes necessary to calculate the exact moment of the beginning and ending of *tithis*, *nakshatras* and *yogas*, with greater accuracy than can be obtained by the use of Table X, *Indian Calendar*, or Table LXX (above, where the time-equivalent of the unit, respectively, is given only in hours and minutes). My general working Tables given in this volume for the Hindu astronomical *Siddhāntas* yield results, stated in measurement by 10,000ths of the circle, with an accuracy extending to four places of decimals, and the following Table enables the result to be translated into time down to a fraction of a second. It may be used for all astronomical authorities.

The tithi-index unit.

The *tithi*-unit is $\frac{1}{10,000}$ th of a mean lunation. The mean lunation, according to the *Ārya-* and *Sūrya-Siddhāntas*, occupies $29^d 12^h 44^m 2^s.79$. The unit, or 10,000th part of this, is $4^m 25.24046$, or $4^m 15^s.144279$.

The nakshatra-index unit.

The moon's *nakshatra*, or her position in the heavens, mean or true, is found by adding the *tithi*-index, "a" or "t", to the index of the sun's longitude, "s", mean or true. Both these values are found in the ordinary course of calculation for a date.

The mean *nakshatra*-value $n = 10,000$ is reached in $27^d 7^h 43^m 12^s.3$. In this period the sun's mean motion amounts, in 10,000ths of circle measurement, to 748.0087 (Table XLIV above) and the moon's mean distance from mean sun increases (Table LIV A, B) to 9251.9913. Total 10,000.

$27^d 7^h 43^m 12^s.3 = 39343^m.205$, and this divided by 10,000 fixes the time-equivalent of the *nakshatra*-unit as $3^m 9343205$, or $3^m 56^s.05923$.

The yōga-index unit.

Similarly the *yōga-chakra* is estimated by the *Sūrya-Siddhānta* (*Indian Calendar*, p. 62, § 113) as occupying 36605.116 minutes of time, or $23^d 10^h 5^m 6^s.96$.¹ The *yōga*-unit therefore is $3^m 6605116$, or $3^m 39^s.6307$.

¹ The *yōga* formula is "y" = "s" (sun's long.) + "n" (moon's *nakshatra*), and, since $s = s + n$, $y = 2s + n$. In the period noted it will be found by calculation, using Table XLIV above, that the mean sun "s" arrives, in 10,000ths of circle measurement, at long. 695.9511; and by using Table LXIV that in the same period the mean moon has increased her distance from mean sun "n" by 8608.0064. Twice "s" = 1391.9022, and this + 8608.0064 (the value of "n") = 9999.9086, practically 10,000 exactly. Table LXIV was prepared according to the *First Ārya-Siddhānta*. Using *Siddhānta-Śirōmaṇi* and *Brāhma-Siddhānta* estimates (Table LIV) the total amounts to 10,000.0015, I have as yet no similar Table according to *Sūrya-Siddhānta* requirements; but from what has been said it may be assumed that its estimate of the time occupied by one *yōga-chakra* (= 10,000) is correct.

TABLE XCIV-A.

TIME-EQUIVALENTS.

TITHI-INDEX UNITS.

("Arg." = a or l.)

| Arg. | H. M. S. | Arg. | H. M. S. | Arg. | H. M. S. | Arg. | H. M. S. |
|------|------------|------|------------|------|------------|------|-------------|
| 1 | 0 4 15.14 | 30 | 2 7 34.33 | 59 | 4 10 53.51 | 88 | 6 14 12.70 |
| 2 | 0 8 30.29 | 31 | 2 11 49.47 | 60 | 4 15 8.7 | 89 | 6 18 27.84 |
| 3 | 0 12 45.43 | 32 | 2 16 4.62 | 61 | 4 19 23.60 | 90 | 6 22 42.99 |
| 4 | 0 17 0.58 | 33 | 2 20 19.76 | 62 | 4 23 38.05 | 91 | 6 26 58.13 |
| 5 | 0 21 15.72 | 34 | 2 24 34.91 | 63 | 4 27 54.09 | 92 | 6 31 13.27 |
| 6 | 0 25 30.87 | 35 | 2 28 50.05 | 64 | 4 32 9.23 | 93 | 6 35 28.42 |
| 7 | 0 29 46.01 | 36 | 2 33 5.19 | 65 | 4 36 24.38 | 94 | 6 39 43.56 |
| 8 | 0 34 1.15 | 37 | 2 37 20.34 | 66 | 4 40 39.52 | 95 | 6 43 58.71 |
| 9 | 0 38 16.30 | 38 | 2 41 35.48 | 67 | 4 44 54.67 | 96 | 6 48 13.85 |
| 10 | 0 42 31.44 | 39 | 2 45 50.63 | 68 | 4 49 9.81 | 97 | 6 52 29.00 |
| 11 | 0 46 46.59 | 40 | 2 50 5.77 | 69 | 4 53 24.96 | 98 | 6 56 44.14 |
| 12 | 0 51 1.73 | 41 | 2 54 20.92 | 70 | 4 57 40.10 | 99 | 7 0 59.28 |
| 13 | 0 55 16.88 | 42 | 2 58 36.06 | 71 | 5 1 55.24 | 100 | 7 5 14.43 |
| 14 | 0 59 32.02 | 43 | 3 2 51.20 | 72 | 5 6 10.39 | 200 | 14 10 28.86 |
| 15 | 1 3 47.16 | 44 | 3 7 6.35 | 73 | 5 10 25.53 | 300 | 21 15 43.28 |
| 16 | 1 8 2.31 | 45 | 3 11 21.49 | 74 | 5 14 40.68 | 400 | 28 20 57.71 |
| 17 | 1 12 17.45 | 46 | 3 15 36.64 | 75 | 5 18 55.82 | 500 | 35 26 12.14 |
| 18 | 1 16 32.60 | 47 | 3 19 51.78 | 76 | 5 23 10.97 | 600 | 42 31 26.57 |
| 19 | 1 20 47.74 | 48 | 3 24 6.93 | 77 | 5 27 26.11 | 700 | 49 36 41.00 |
| 20 | 1 25 2.89 | 49 | 3 28 22.07 | 78 | 5 31 41.25 | 800 | 56 41 55.42 |
| 21 | 1 29 18.03 | 50 | 3 32 37.21 | 79 | 5 35 56.40 | 900 | 63 47 9.85 |
| 22 | 1 33 33.17 | 51 | 3 36 52.36 | 80 | 5 40 11.54 | 1000 | 70 52 24.28 |
| 23 | 1 37 48.32 | 52 | 3 41 7.50 | 81 | 5 44 26.69 | | |
| 24 | 1 42 3.46 | 53 | 3 45 22.65 | 82 | 5 48 41.83 | | |
| 25 | 1 46 18.61 | 54 | 3 49 37.79 | 83 | 5 52 56.98 | | |
| 26 | 1 50 33.75 | 55 | 3 53 52.94 | 84 | 5 57 12.20 | | |
| 27 | 1 54 48.90 | 56 | 3 58 8.08 | 85 | 6 1 27.26 | | |
| 28 | 1 59 4.04 | 57 | 4 2 23.22 | 86 | 6 5 42.41 | | |
| 29 | 2 3 19.18 | 58 | 4 6 38.37 | 87 | 6 9 57.55 | | |

TABLE XCIV-B.

TIME-EQUIVALENTS.

DECIMALS OF TITHI-INDEX UNITS.

| First 2 decimals. | M. S. | First 2 decimals. | M. S. | First 2 decimals. | M. S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. |
|----------------------|---------|----------------------|---------|----------------------|---------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| ·01 | 0 2-55 | ·24 | 1 26-75 | ·67 | 2 50-95 | ·0001 | 0-03 | ·0034 | 0-87 | ·0067 | 1-71 |
| ·02 | 0 5-10 | ·35 | 1 29-30 | ·68 | 2 53-50 | ·0002 | 0-05 | ·0035 | 0-89 | ·0068 | 1-73 |
| ·03 | 0 7-55 | ·36 | 1 31-85 | ·69 | 2 56-05 | ·0003 | 0-08 | ·0036 | 0-92 | ·0069 | 1-76 |
| ·04 | 0 10-21 | ·37 | 1 34-40 | ·70 | 2 58-60 | ·0004 | 0-10 | ·0037 | 0-94 | ·0070 | 1-79 |
| ·05 | 0 12-76 | ·38 | 1 36-95 | ·71 | 3 1-15 | ·0005 | 0-13 | ·0038 | 0-97 | ·0071 | 1-81 |
| ·06 | 0 15-31 | ·39 | 1 39-51 | ·72 | 3 3-70 | ·0006 | 0-15 | ·0039 | 1-00 | ·0072 | 1-84 |
| ·07 | 0 17-86 | ·40 | 1 42-06 | ·73 | 3 6-25 | ·0007 | 0-18 | ·0040 | 1-02 | ·0073 | 1-86 |
| ·08 | 0 20-41 | ·41 | 1 44-61 | ·74 | 3 8-81 | ·0008 | 0-20 | ·0041 | 1-05 | ·0074 | 1-89 |
| ·09 | 0 22-96 | ·42 | 1 47-16 | ·75 | 3 11-36 | ·0009 | 0-23 | ·0042 | 1-07 | ·0075 | 1-91 |
| ·10 | 0 25-51 | ·43 | 1 49-71 | ·76 | 3 13-91 | ·0010 | 0-26 | ·0043 | 1-10 | ·0076 | 1-94 |
| ·11 | 0 28-07 | ·44 | 1 52-26 | ·77 | 3 16-46 | ·0011 | 0-28 | ·0044 | 1-12 | ·0077 | 1-96 |
| ·12 | 0 30-62 | ·45 | 1 54-81 | ·78 | 3 19-01 | ·0012 | 0-31 | ·0045 | 1-15 | ·0078 | 1-99 |
| ·13 | 0 33-17 | ·46 | 1 57-37 | ·79 | 3 21-56 | ·0013 | 0-33 | ·0046 | 1-17 | ·0079 | 2-02 |
| ·14 | 0 35-72 | ·47 | 1 59-92 | ·80 | 3 24-12 | ·0014 | 0-36 | ·0047 | 1-20 | ·0080 | 2-04 |
| ·15 | 0 38-27 | ·48 | 2 2-47 | ·81 | 3 26-67 | ·0015 | 0-38 | ·0048 | 1-22 | ·0081 | 2-07 |
| ·16 | 0 40-82 | ·49 | 2 5-02 | ·82 | 3 29-22 | ·0016 | 0-41 | ·0049 | 1-25 | ·0082 | 2-09 |
| ·17 | 0 43-37 | ·50 | 2 7-57 | ·83 | 3 31-78 | ·0017 | 0-43 | ·0050 | 1-28 | ·0083 | 2-12 |
| ·18 | 0 45-93 | ·51 | 2 10-12 | ·84 | 3 34-32 | ·0018 | 0-46 | ·0051 | 1-30 | ·0084 | 2-14 |
| ·19 | 0 48-48 | ·52 | 2 12-68 | ·85 | 3 36-87 | ·0019 | 0-48 | ·0052 | 1-33 | ·0085 | 2-17 |
| ·20 | 0 51-03 | ·53 | 2 15-23 | ·86 | 3 39-42 | ·0020 | 0-51 | ·0053 | 1-35 | ·0086 | 2-19 |
| ·21 | 0 53-58 | ·54 | 2 17-78 | ·87 | 3 41-98 | ·0021 | 0-54 | ·0054 | 1-38 | ·0087 | 2-22 |
| ·22 | 0 56-13 | ·55 | 2 20-33 | ·88 | 3 44-53 | ·0022 | 0-56 | ·0055 | 1-40 | ·0088 | 2-25 |
| ·23 | 0 58-68 | ·56 | 2 22-88 | ·89 | 3 47-08 | ·0023 | 0-59 | ·0056 | 1-43 | ·0089 | 2-27 |
| ·24 | 0 61-23 | ·57 | 2 25-43 | ·90 | 3 49-63 | ·0024 | 0-61 | ·0057 | 1-45 | ·0090 | 2-30 |
| ·25 | 1 3-79 | ·58 | 2 27-98 | ·91 | 3 52-18 | ·0025 | 0-64 | ·0058 | 1-48 | ·0091 | 2-32 |
| ·26 | 1 6-34 | ·59 | 2 30-54 | ·92 | 3 54-73 | ·0026 | 0-66 | ·0059 | 1-51 | ·0092 | 2-35 |
| ·27 | 1 8-89 | ·60 | 2 33-09 | ·93 | 3 57-28 | ·0027 | 0-69 | ·0060 | 1-53 | ·0093 | 2-37 |
| ·28 | 1 11-44 | ·61 | 2 35-64 | ·94 | 3 59-84 | ·0028 | 0-71 | ·0061 | 1-56 | ·0094 | 2-40 |
| ·29 | 1 13-99 | ·62 | 2 38-19 | ·95 | 4 2-39 | ·0029 | 0-74 | ·0062 | 1-58 | ·0095 | 2-42 |
| ·30 | 1 16-54 | ·63 | 2 40-74 | ·96 | 4 4-94 | ·0030 | 0-77 | ·0063 | 1-61 | ·0096 | 2-45 |
| ·31 | 1 19-09 | ·64 | 2 43-29 | ·97 | 4 7-49 | ·0031 | 0-79 | ·0064 | 1-63 | ·0097 | 2-47 |
| ·32 | 1 21-65 | ·65 | 2 45-84 | ·98 | 4 10-04 | ·0032 | 0-82 | ·0065 | 1-66 | ·0098 | 2-50 |
| ·33 | 1 24-20 | ·66 | 2 48-40 | ·99 | 4 12-59 | ·0033 | 0-84 | ·0066 | 1-68 | ·0099 | 2-52 |

TABLE XCIV.C.

TIME-EQUIVALENTS.

NAKSHATRA-INDEX UNITS.

| Arg. | H. M. S. | Arg. | H. M. S. | Arg. | H. M. S. | Arg. | H. M. S. |
|------|------------|------|------------|------|------------|------|-------------|
| 1 | 0 3 56-06 | 31 | 2 1 57-64 | 61 | 3 59 59-61 | 91 | 5 58 1-39 |
| 2 | 0 7 52-12 | 32 | 2 5 53-00 | 62 | 4 3 55-67 | 92 | 6 1 57-45 |
| 3 | 0 11 48-18 | 33 | 2 9 49-05 | 63 | 4 7 51-73 | 93 | 6 5 53-51 |
| 4 | 0 15 44-24 | 34 | 2 13 45-01 | 64 | 4 11 47-79 | 94 | 6 9 49-57 |
| 5 | 0 19 40-30 | 35 | 2 17 42-07 | 65 | 4 15 43-85 | 95 | 6 13 45-63 |
| 6 | 0 23 36-36 | 36 | 2 21 38-13 | 66 | 4 19 39-91 | 96 | 6 17 41-69 |
| 7 | 0 27 32-41 | 37 | 2 25 34-19 | 67 | 4 23 35-97 | 97 | 6 21 37-75 |
| 8 | 0 31 28-47 | 38 | 2 29 30-25 | 68 | 4 27 32-03 | 98 | 6 25 33-80 |
| 9 | 0 35 24-53 | 39 | 2 33 26-31 | 69 | 4 31 28-09 | 99 | 6 29 29-86 |
| 10 | 0 39 20-59 | 40 | 2 37 22-37 | 70 | 4 35 24-15 | 100 | 6 33 25-92 |
| 11 | 0 43 16-65 | 41 | 2 41 18-43 | 71 | 4 39 20-21 | 200 | 13 0 51-85 |
| 12 | 0 47 12-71 | 42 | 2 45 14-49 | 72 | 4 43 16-26 | 300 | 19 40 17-78 |
| 13 | 0 51 8-77 | 43 | 2 49 10-55 | 73 | 4 47 12-32 | | |
| 14 | 0 55 4-83 | 44 | 2 53 6-61 | 74 | 4 51 8-38 | | |
| 15 | 0 59 0-89 | 45 | 2 57 2-67 | 75 | 4 55 4-44 | | |
| 16 | 1 2 56-95 | 46 | 3 0 58-72 | 76 | 4 59 0-50 | | |
| 17 | 1 6 53-01 | 47 | 3 4 54-78 | 77 | 5 2 56-56 | | |
| 18 | 1 10 49-07 | 48 | 3 8 50-84 | 78 | 5 6 52-62 | | |
| 19 | 1 14 45-13 | 49 | 3 12 46-90 | 79 | 5 10 48-68 | | |
| 20 | 1 18 41-18 | 50 | 3 16 42-96 | 80 | 5 14 44-74 | | |
| 21 | 1 22 37-24 | 51 | 3 20 39-02 | 81 | 5 18 40-80 | | |
| 22 | 1 26 33-30 | 52 | 3 24 35-08 | 82 | 5 22 36-86 | | |
| 23 | 1 30 29-36 | 53 | 3 28 31-14 | 83 | 5 26 32-92 | | |
| 24 | 1 34 25-42 | 54 | 3 32 27-20 | 84 | 5 30 28-98 | | |
| 25 | 1 38 21-48 | 55 | 3 36 23-26 | 85 | 5 34 25-03 | | |
| 26 | 1 42 17-54 | 56 | 3 40 19-32 | 86 | 5 38 21-09 | | |
| 27 | 1 46 13-60 | 57 | 3 44 15-38 | 87 | 5 42 17-15 | | |
| 28 | 1 50 9-66 | 58 | 3 48 11-44 | 88 | 5 46 13-21 | | |
| 29 | 1 54 5-72 | 59 | 3 52 7-49 | 89 | 5 50 9-27 | | |
| 30 | 1 58 1-78 | 60 | 3 56 3-55 | 90 | 5 54 5-33 | | |

TABLE XCIV-D.

TIME-EQUIVALENTS.

DECIMALS OF SAKSHATRA-INDEX UNITS.

| First 2 decimals. | M. S. | First 2 decimals. | M. S. | First 2 decimals. | M. S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. |
|----------------------|---------|----------------------|---------|----------------------|---------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| 01 | 0 236 | 34 | 1 20-26 | 67 | 2 38-16 | 0001 | 0-02 | 0034 | 0-80 | 0067 | 1-58 |
| 02 | 0 472 | 35 | 1 22-32 | 68 | 2 40-52 | 0002 | 0-05 | 0035 | 0-83 | 0068 | 1-61 |
| 03 | 0 708 | 36 | 1 24-08 | 69 | 2 42-88 | 0003 | 0-07 | 0036 | 0-85 | 0069 | 1-63 |
| 04 | 0 944 | 37 | 1 27-34 | 70 | 2 45-24 | 0004 | 0-09 | 0037 | 0-87 | 0070 | 1-65 |
| 05 | 0 1180 | 38 | 1 29-70 | 71 | 2 47-60 | 0005 | 0-12 | 0038 | 0-90 | 0071 | 1-68 |
| 06 | 0 1416 | 39 | 1 32-06 | 72 | 2 49-96 | 0006 | 0-14 | 0039 | 0-92 | 0072 | 1-70 |
| 07 | 0 1652 | 40 | 1 34-42 | 73 | 2 52-32 | 0007 | 0-17 | 0040 | 0-94 | 0073 | 1-72 |
| 08 | 0 1888 | 41 | 1 36-78 | 74 | 2 54-68 | 0008 | 0-19 | 0041 | 0-97 | 0074 | 1-75 |
| 09 | 0 2125 | 42 | 1 39-14 | 75 | 2 57-04 | 0009 | 0-21 | 0042 | 0-99 | 0075 | 1-77 |
| 10 | 0 2361 | 43 | 1 41-51 | 76 | 2 59-40 | 0010 | 0-24 | 0043 | 1-02 | 0076 | 1-79 |
| 11 | 0 2597 | 44 | 1 43-87 | 77 | 3 1-77 | 0011 | 0-26 | 0044 | 1-04 | 0077 | 1-82 |
| 12 | 0 2833 | 45 | 1 46-23 | 78 | 3 4-13 | 0012 | 0-28 | 0045 | 1-06 | 0078 | 1-84 |
| 13 | 0 3069 | 46 | 1 48-59 | 79 | 3 6-49 | 0013 | 0-31 | 0046 | 1-09 | 0079 | 1-86 |
| 14 | 0 3305 | 47 | 1 50-95 | 80 | 3 8-85 | 0014 | 0-33 | 0047 | 1-11 | 0080 | 1-89 |
| 15 | 0 3541 | 48 | 1 53-31 | 81 | 3 11-21 | 0015 | 0-35 | 0048 | 1-13 | 0081 | 1-91 |
| 16 | 0 3777 | 49 | 1 55-67 | 82 | 3 13-57 | 0016 | 0-38 | 0049 | 1-16 | 0082 | 1-94 |
| 17 | 0 4013 | 50 | 1 58-03 | 83 | 3 15-93 | 0017 | 0-40 | 0050 | 1-18 | 0083 | 1-96 |
| 18 | 0 4249 | 51 | 2 0-39 | 84 | 3 18-29 | 0018 | 0-42 | 0051 | 1-20 | 0084 | 1-98 |
| 19 | 0 4485 | 52 | 2 2-75 | 85 | 3 20-65 | 0019 | 0-45 | 0052 | 1-23 | 0085 | 2-01 |
| 20 | 0 4721 | 53 | 2 5-11 | 86 | 3 23-01 | 0020 | 0-47 | 0053 | 1-25 | 0086 | 2-03 |
| 21 | 0 4957 | 54 | 2 7-47 | 87 | 3 25-37 | 0021 | 0-50 | 0054 | 1-27 | 0087 | 2-05 |
| 22 | 0 5193 | 55 | 2 9-83 | 88 | 3 27-73 | 0022 | 0-52 | 0055 | 1-30 | 0088 | 2-08 |
| 23 | 0 5429 | 56 | 2 12-19 | 89 | 3 30-09 | 0023 | 0-54 | 0056 | 1-32 | 0089 | 2-10 |
| 24 | 0 5665 | 57 | 2 14-55 | 90 | 3 32-45 | 0024 | 0-57 | 0057 | 1-35 | 0090 | 2-12 |
| 25 | 0 5901 | 58 | 2 16-91 | 91 | 3 34-81 | 0025 | 0-59 | 0058 | 1-37 | 0091 | 2-15 |
| 26 | 1 1-38 | 59 | 2 19-28 | 92 | 3 37-17 | 0026 | 0-61 | 0059 | 1-39 | 0092 | 2-17 |
| 27 | 1 3-74 | 60 | 2 21-64 | 93 | 3 39-54 | 0027 | 0-64 | 0060 | 1-42 | 0093 | 2-20 |
| 28 | 1 6-10 | 61 | 2 24-00 | 94 | 3 41-90 | 0028 | 0-66 | 0061 | 1-44 | 0094 | 2-22 |
| 29 | 1 8-46 | 62 | 2 26-36 | 95 | 3 44-26 | 0029 | 0-68 | 0062 | 1-46 | 0095 | 2-24 |
| 30 | 1 10-82 | 63 | 2 28-72 | 96 | 3 46-62 | 0030 | 0-71 | 0063 | 1-49 | 0096 | 2-27 |
| 31 | 1 13-18 | 64 | 2 31-08 | 97 | 3 48-98 | 0031 | 0-73 | 0064 | 1-51 | 0097 | 2-29 |
| 32 | 1 15-54 | 65 | 2 33-44 | 98 | 3 51-34 | 0032 | 0-76 | 0065 | 1-53 | 0098 | 2-31 |
| 33 | 1 17-90 | 66 | 2 35-80 | 99 | 3 53-70 | 0033 | 0-78 | 0066 | 1-56 | 0099 | 2-34 |

TABLE XCIV-E.

TIME-EQUIVALENTS.

YOGA-INDEX UNITS.

| Arg. | H. | M. | S. | Arg. | H. | M. | S. | Arg. | H. | M. | S. | Arg. | H. | M. | S. |
|------|----|----|-------|------|----|----|-------|------|----|----|-------|------|----|----|-------|
| 1 | 0 | 3 | 39-63 | 31 | 1 | 53 | 28-55 | 61 | 3 | 43 | 17-47 | 91 | 5 | 33 | 6-39 |
| 2 | 0 | 7 | 19-26 | 32 | 1 | 57 | 8-18 | 62 | 3 | 46 | 57-10 | 92 | 5 | 36 | 46-02 |
| 3 | 0 | 10 | 58-89 | 33 | 2 | 0 | 47-61 | 63 | 3 | 50 | 36-73 | 93 | 5 | 40 | 25-65 |
| 4 | 0 | 14 | 38-52 | 34 | 2 | 4 | 27-44 | 64 | 3 | 54 | 16-36 | 94 | 5 | 44 | 5-29 |
| 5 | 0 | 18 | 18-15 | 35 | 2 | 8 | 7-07 | 65 | 3 | 57 | 56-00 | 95 | 5 | 47 | 44-92 |
| 6 | 0 | 21 | 57-78 | 36 | 2 | 11 | 46-71 | 66 | 4 | 1 | 35-63 | 96 | 5 | 51 | 24-55 |
| 7 | 0 | 25 | 37-41 | 37 | 2 | 15 | 26-34 | 67 | 4 | 5 | 15-26 | 97 | 5 | 55 | 4-18 |
| 8 | 0 | 29 | 17-05 | 38 | 2 | 19 | 5-97 | 68 | 4 | 8 | 54-89 | 98 | 5 | 58 | 43-81 |
| 9 | 0 | 32 | 56-68 | 39 | 2 | 22 | 45-60 | 69 | 4 | 12 | 34-52 | 99 | 6 | 2 | 23-44 |
| 10 | 0 | 36 | 36-31 | 40 | 2 | 26 | 25-23 | 70 | 4 | 16 | 14-15 | 100 | 6 | 6 | 3-07 |
| 11 | 0 | 40 | 15-94 | 41 | 2 | 30 | 4-86 | 71 | 4 | 19 | 53-78 | 200 | 12 | 12 | 6-14 |
| 12 | 0 | 43 | 55-57 | 42 | 2 | 33 | 44-49 | 72 | 4 | 23 | 33-41 | 300 | 18 | 18 | 9-21 |
| 13 | 0 | 47 | 35-20 | 43 | 2 | 37 | 24-12 | 73 | 4 | 27 | 13-04 | | | | |
| 14 | 0 | 51 | 14-83 | 44 | 2 | 41 | 3-75 | 74 | 4 | 30 | 52-67 | | | | |
| 15 | 0 | 54 | 54-46 | 45 | 2 | 44 | 43-38 | 75 | 4 | 34 | 32-30 | | | | |
| 16 | 0 | 58 | 34-09 | 46 | 2 | 48 | 23-01 | 76 | 4 | 38 | 11-93 | | | | |
| 17 | 1 | 2 | 13-72 | 47 | 2 | 52 | 2-64 | 77 | 4 | 41 | 51-56 | | | | |
| 18 | 1 | 5 | 53-35 | 48 | 2 | 55 | 42-27 | 78 | 4 | 45 | 31-19 | | | | |
| 19 | 1 | 9 | 32-98 | 49 | 2 | 59 | 21-90 | 79 | 4 | 49 | 10-83 | | | | |
| 20 | 1 | 13 | 12-61 | 50 | 3 | 3 | 1-53 | 80 | 4 | 52 | 50-46 | | | | |
| 21 | 1 | 16 | 52-24 | 51 | 3 | 6 | 41-17 | 81 | 4 | 56 | 30-09 | | | | |
| 22 | 1 | 20 | 31-88 | 52 | 3 | 10 | 20-80 | 82 | 5 | 0 | 9-72 | | | | |
| 23 | 1 | 24 | 11-51 | 53 | 3 | 14 | 0-43 | 83 | 5 | 3 | 49-35 | | | | |
| 24 | 1 | 27 | 51-14 | 54 | 3 | 17 | 40-06 | 84 | 5 | 7 | 28-98 | | | | |
| 25 | 1 | 31 | 30-77 | 55 | 3 | 21 | 19-69 | 85 | 5 | 11 | 8-61 | | | | |
| 26 | 1 | 35 | 10-40 | 56 | 3 | 24 | 59-32 | 86 | 5 | 14 | 48-24 | | | | |
| 27 | 1 | 38 | 50-03 | 57 | 3 | 28 | 38-95 | 87 | 5 | 18 | 27-87 | | | | |
| 28 | 1 | 42 | 29-66 | 58 | 3 | 32 | 18-58 | 88 | 5 | 22 | 7-50 | | | | |
| 29 | 1 | 46 | 9-29 | 59 | 3 | 35 | 58-21 | 89 | 5 | 25 | 47-13 | | | | |
| 30 | 1 | 49 | 48-92 | 60 | 3 | 39 | 37-84 | 90 | 5 | 29 | 26-76 | | | | |

TABLE XCIV-F.

TIME-EQUIVALENTS.

DECIMALS OF YOGA-INDEX UNITS.

| First 2 decimals. | M. | S. | First 2 decimals. | M. | S. | First 2 decimals. | M. | S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. | 3rd and 4th decimals. | S. |
|----------------------|----|-------|----------------------|----|-------|----------------------|----|-------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| 01 | 0 | 2-20 | 34 | 1 | 14-67 | 67 | 2 | 27-15 | 0001 | 0-02 | 0034 | 0-75 | 0067 | 1-47 |
| 02 | 0 | 4-39 | 35 | 1 | 16-87 | 68 | 2 | 29-35 | 0002 | 0-04 | 0035 | 0-77 | 0068 | 1-49 |
| 03 | 0 | 6-59 | 36 | 1 | 19-07 | 69 | 2 | 31-55 | 0003 | 0-07 | 0036 | 0-79 | 0069 | 1-52 |
| 04 | 0 | 8-79 | 37 | 1 | 21-26 | 70 | 2 | 33-74 | 0004 | 0-09 | 0037 | 0-81 | 0070 | 1-54 |
| 05 | 0 | 10-98 | 38 | 1 | 23-46 | 71 | 2 | 35-94 | 0005 | 0-11 | 0038 | 0-83 | 0071 | 1-56 |
| 06 | 0 | 13-18 | 39 | 1 | 25-66 | 72 | 2 | 38-13 | 0006 | 0-13 | 0039 | 0-86 | 0072 | 1-58 |
| 07 | 0 | 15-37 | 40 | 1 | 27-85 | 73 | 2 | 40-33 | 0007 | 0-15 | 0040 | 0-88 | 0073 | 1-60 |
| 08 | 0 | 17-57 | 41 | 1 | 30-05 | 74 | 2 | 42-53 | 0008 | 0-18 | 0041 | 0-90 | 0074 | 1-63 |
| 09 | 0 | 19-77 | 42 | 1 | 32-24 | 75 | 2 | 44-72 | 0009 | 0-20 | 0042 | 0-92 | 0075 | 1-65 |
| 10 | 0 | 21-96 | 43 | 1 | 34-44 | 76 | 2 | 46-92 | 0010 | 0-22 | 0043 | 0-94 | 0076 | 1-67 |
| 11 | 0 | 24-16 | 44 | 1 | 36-64 | 77 | 2 | 49-12 | 0011 | 0-24 | 0044 | 0-97 | 0077 | 1-69 |
| 12 | 0 | 26-36 | 45 | 1 | 38-83 | 78 | 2 | 51-31 | 0012 | 0-26 | 0045 | 0-99 | 0078 | 1-71 |
| 13 | 0 | 28-55 | 46 | 1 | 41-03 | 79 | 2 | 53-51 | 0013 | 0-29 | 0046 | 1-01 | 0079 | 1-74 |
| 14 | 0 | 30-75 | 47 | 1 | 43-23 | 80 | 2 | 55-70 | 0014 | 0-31 | 0047 | 1-03 | 0080 | 1-76 |
| 15 | 0 | 32-94 | 48 | 1 | 45-42 | 81 | 2 | 57-90 | 0015 | 0-33 | 0048 | 1-05 | 0081 | 1-78 |
| 16 | 0 | 35-14 | 49 | 1 | 47-62 | 82 | 3 | 0-10 | 0016 | 0-35 | 0049 | 1-08 | 0082 | 1-80 |
| 17 | 0 | 37-34 | 50 | 1 | 49-82 | 83 | 3 | 2-29 | 0017 | 0-37 | 0050 | 1-10 | 0083 | 1-82 |
| 18 | 0 | 39-53 | 51 | 1 | 52-01 | 84 | 3 | 4-49 | 0018 | 0-40 | 0051 | 1-12 | 0084 | 1-84 |
| 19 | 0 | 41-73 | 52 | 1 | 54-21 | 85 | 3 | 6-69 | 0019 | 0-42 | 0052 | 1-14 | 0085 | 1-87 |
| 20 | 0 | 43-93 | 53 | 1 | 56-40 | 86 | 3 | 8-88 | 0020 | 0-44 | 0053 | 1-16 | 0086 | 1-89 |
| 21 | 0 | 46-12 | 54 | 1 | 58-60 | 87 | 3 | 11-08 | 0021 | 0-46 | 0054 | 1-19 | 0087 | 1-91 |
| 22 | 0 | 48-32 | 55 | 2 | 0-80 | 88 | 3 | 13-28 | 0022 | 0-48 | 0055 | 1-21 | 0088 | 1-93 |
| 23 | 0 | 50-52 | 56 | 2 | 2-99 | 89 | 3 | 15-47 | 0023 | 0-51 | 0056 | 1-23 | 0089 | 1-95 |
| 24 | 0 | 52-71 | 57 | 2 | 5-19 | 90 | 3 | 17-67 | 0024 | 0-53 | 0057 | 1-25 | 0090 | 1-98 |
| 25 | 0 | 54-91 | 58 | 2 | 7-39 | 91 | 3 | 19-86 | 0025 | 0-55 | 0058 | 1-27 | 0091 | 2-00 |
| 26 | 0 | 57-10 | 59 | 2 | 9-58 | 92 | 3 | 22-06 | 0026 | 0-57 | 0059 | 1-30 | 0092 | 2-02 |
| 27 | 0 | 59-30 | 60 | 2 | 11-78 | 93 | 3 | 24-26 | 0027 | 0-59 | 0060 | 1-32 | 0093 | 2-04 |
| 28 | 1 | 1-50 | 61 | 2 | 13-97 | 94 | 3 | 26-45 | 0028 | 0-61 | 0061 | 1-34 | 0094 | 2-06 |
| 29 | 1 | 3-69 | 62 | 2 | 16-17 | 95 | 3 | 28-65 | 0029 | 0-64 | 0062 | 1-36 | 0095 | 2-09 |
| 30 | 1 | 5-89 | 63 | 2 | 18-37 | 96 | 3 | 30-85 | 0030 | 0-66 | 0063 | 1-38 | 0096 | 2-11 |
| 31 | 1 | 8-09 | 64 | 2 | 20-56 | 97 | 3 | 33-04 | 0031 | 0-68 | 0064 | 1-41 | 0097 | 2-13 |
| 32 | 1 | 10-28 | 65 | 2 | 22-76 | 98 | 3 | 35-24 | 0032 | 0-70 | 0065 | 1-43 | 0098 | 2-15 |
| 33 | 1 | 12-48 | 66 | 2 | 24-96 | 99 | 3 | 37-43 | 0033 | 0-72 | 0066 | 1-45 | 0099 | 2-17 |

TABLES FOR FINDING THE MEAN PLACE OF THE PLANET SATURN.

By J. F. FLEET, I.C.S. (RETD.), PH.D., C.I.E.

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In examining the astrological details of a date in Śaka 380 (J. R. A. S., 1915, p. 482), I had to work out the bases for tables, and to make parts of the tables themselves, for finding the mean place of the planet Saturn, that is, his mean longitude, according to the *First Ārya-Siddhānta* and the *Original* and *Present Sūrya-Siddhāntas*. It has seemed useful to complete the tables and publish them, with examples of the use of them, so that they may be available for any future work of the same kind.¹ At the same time, I seek to give them an interest by attaching some general remarks and showing the bases from which they have been made.

GENERAL REMARKS.

The starting-point of my tables is the beginning of the Kaliyuga era in B.C. 3102, when, according to the Hindū astronomy, there was the latest recurrence of a conjunction of all the planets (including the sun and the moon), by their mean longitudes, at the initial point of the Hindū sphere, namely, the point 0° of the sidereal sign Mēsha (Aries).² According to the *First Ārya-Siddhānta* this conjunction was at mean sunrise, 6.0 A.M., for the prime meridian of Lañkā-Ujjain, on 18 February in the said year. According to the two *Sūrya-Siddhāntas* it was at the preceding midnight.

The years in my tables are the mean sidereal solar years of the Kaliyuga: and, as a first step in using the tables, for any given year of the Śaka or any other Hindū era, or of our era, we must take the corresponding year of the Kaliyuga.³ Each year is the period in which the sun by mean motion travels round the circle of the heavens from the point 0° of the sign Mēsha back to the same point. The length of this year differs slightly according to each of the three authorities, as a result of the difference in the number of days assigned by them (see farther on, under the Bases) to the *exeligmos* or calculative period of 4,320,000 years which constitutes the Yuga, Mahāyuga, or Chaturyuga, the cycle of Four Ages. The lengths of the years are as follows:—

| | days. | d. | h. | m. | s. |
|--------------------------|--------------|------|----|----|-------|
| <i>First Ārya-S.</i> | 365·2586805 | =365 | 6 | 12 | 30 |
| <i>Original Sūrya-S.</i> | 365·25875 | =365 | 6 | 12 | 36 |
| <i>Present Sūrya-S.</i> | 36·258756481 | =365 | 6 | 12 | 36·56 |

The days are mean natural or civil days, each of exactly twenty-four hours. For calculative purposes they run from mean sunrise to mean sunrise according to the *First Ārya-Siddhānta*, and from the preceding midnight to midnight according to the two *Sūrya-Siddhāntas*. But for ordinary use the Hindū day runs from true sunrise to true sunrise according to both the schools.

The revolution of Saturn is his journey round the heavens, through the twelve signs of the zodiac and the twenty-seven *nakshatras* or "lunar mansions", from the point 0° of the sign

¹ Tables by Professor Jacobi (on quite different lines) for finding both the mean and the true places of all the planets according to the *Present Sūrya-Siddhānta*, have been published in the *Epigraphia Indica*, Vol. 12, p. 79 ff. I had not seen these when my paper in question was written. Professor Jacobi's process is a shorter one, as a result of much work done by him in making his tables. But his tables do not make mine unnecessary, even for the *Present Sūrya-Siddhānta*; in the first place, because we want, for any time before about A.D. 1000, a much earlier guide than that work; and secondly, because they do not give the very close results which are to be got from my tables.

² On this matter see my paper on the Kaliyuga in J. R. A. S., 1911, p. 493.

³ We might, of course, lay down as an additive constant the place of Saturn, according to each of the three authorities, for the beginning of the Śaka era in A.D. 78, or for any other chosen time, and then work for only the remaining years. Yet in my opinion little, if anything, is really gained by that method.

Mēsha back to the same point. His revolution and longitude are, of course, geocentric; the earth being regarded as the centre of the universe in the Hindū astronomy.

From Table I, which gives Saturn's mean yearly motion, we get, as the first step in any working, the number of revolutions completed by him, and, over and above that, his mean place or longitude in signs, degrees, minutes, and seconds, reckoned from the point 0° of Mēsha, at the moment of the mean Mēsha-saṁkrānti, or entrance of the sun into Mēsha, of the given year; that is, at the moment of the mean vernal equinox, which is the astronomical beginning of the year. The date and time of that moment may be ascertained from Sewell and Dikshit's *Indian Calendar*, Table I, taken with the intervals between the true and mean Mēsha-saṁkrāntis given on p. 12, and Sewell's *Indian Chronography*, tables 17 and 38, A, and p. 57. It is not always necessary to reduce Saturn's place at that moment to his place at mean sunrise on that same day, as I have done in Example 1 below (p. 616): but it is generally useful to do so; especially if we are likely to work for more days than one in one and the same year.

In using Table I, the seconds in the first nine years may be turned into even numbers by rejecting anything up to .5 and taking anything over .5 as 1 to be added to the integral number.

Table II, which gives Saturn's mean daily motion and supplies what is wanted for finding his mean place or longitude at any subsequent time in the same year, is in two parts: A, for general use, with the seconds treated on those same lines; and B, for closer work, with the actual seconds to three places of decimals, determined by rejecting anything up to .0005 and treating anything over that as 1 to be added to the third figure.

Results worked from Table I, with the seconds treated as indicated above, and Table II, Part A, will be close enough for all general purposes. But, if it is ever necessary,—as, for instance if a resulting place is very near to the beginning of a sign or a *nakshatra*, when a few seconds of arc may make a difference in the sign or the *nakshatra*; or if a resulting time is very near to sunrise, when a few minutes of time or seconds of arc may make a difference in the day,—to get a still closer result, then we must work with the decimals given in Table I and Table II, Part B, and must also use actual minutes and seconds, instead of even minutes, in the time of the Mēsha saṁkrānti: in short, we must then work with exactness all through.

Means may perhaps be added hereafter for finding the true place of Saturn, that is, his true or apparent longitude. But that does not seem necessary at present: there are various indications that the mean places are the right ones to take for the planets down to at any rate about A.D. 1000. And certainly, if a statement about any planet is found to be correct for its mean place though not for its true place, we need not condemn the statement on that account.

In addition to the details given in the next section, which explains the bases of my tables the following may be noted here:—

The period of Saturn, the time in which he makes one revolution, works out according to the three authorities as follows:—

| | | |
|--------------------------|-----------|---------------------------|
| <i>First Ārya-S.</i> | | 10766.0646543489... days. |
| <i>Original Sūrya-S.</i> | | 10766.0667012363... " |
| <i>Present Sūrya-S.</i> | | 10765.7730746138... " |

In terms of the mean Julian year of 365.25 days, these figures represent—

| | | |
|--------------------------|-----------|------------------------|
| <i>First Ārya-S.</i> | | 29.4758785882... years |
| <i>Original Sūrya-S.</i> | | 29.4758841922... " |
| <i>Present Sūrya-S.</i> | | 29.4750802864... " |

These cannot be expressed exactly in years, months, and days, because our months have not a uniform number of days. But, with the month taken at $365.25 \div 12 = 30.4375$ days, they represent (say)—

| | | | | | | |
|--------------------------|---|---|---|------|-----|------------|
| <i>First Ārya-S.</i> | . | . | . | 29y. | 5m. | 21-62715d. |
| <i>Original Sūrya-S.</i> | . | . | . | 29y. | 5m. | 21-62920d. |
| <i>Present Sūrya</i> | . | . | . | 29y. | 5m. | 21-33557d. |

The periods given above are geocentric, as has already been said. Modern science gives the period of Saturn's sidereal revolution round the sun as—

$$10759.2198 \text{ days, } \doteq 29.457... \text{ years.}$$

Slightly better Hindū approximations were got by Lalla and the person 'who devised the corrections for the *Present Sūrya-Siddhānta* : see pp. 603, 605, below. Of these, Lalla's result was the nearer, but only by a little more than three minutes : this is due to his *exeligmos* being shorter by 328 days.

BASES OF THE TABLES.

First Ārya-Siddhānta.

By this name is meant the *Āryabhaṭīya*, which was written by Āryabhaṭa at Kusumapura, i.e., Pāṭaliputra, Paṭna, in or soon after A.D. 499.² The text, with the commentary by Paramā-dīvara, has been edited by Professor Kern (Leiden, 1874). Its elements in this matter are :—

146,564 revolutions of Saturn in the Yuga of 4,320,000 years comprising 1,577,917,500 days.

The mean yearly motion is—

$$\frac{146564 \times 360^\circ}{4320000} = 12^\circ.2136 = 12^\circ 12' 49''.2$$

The mean daily motion is—

$$\frac{146564 \times 360^\circ \times 60'}{1577917500} = 2''.0063041318... \\ = 2'' 0''.3782479422...$$

Saturn's period of revolution has been given on p. 601 above. A sign being one-twelfth of a revolution, and a *nakṣatra* being one-twenty-seventh of the same,³ it follows that he spends in one sign 897-1720545290 days, = 24563232156 Julian years, or (say)—2y. 5m. 14-48455d.; and in one *nakṣatra* 398-7431353462 days, or (say)—398d. 17h. 50-11490m.

Lalla, who was the exponent of Āryabhaṭa and seems to have written in the period A.D. 600-650, introduced certain *bijas* or corrections for the mean motions of all the planets, to be applied to the *First Ārya-Siddhānta* with effect from the year Śaka 420 expired, so as to bring their calculated places into agreement with their places as determined by observation.⁴ In the case of Saturn he added $\frac{20'}{250} = 4''.8$, by which he raised the mean yearly motion from $12^\circ 12' 49''.2$ to $12^\circ 13' 54''$. Since one revolution in 4,320,000 years would represent $0''.2$ mean yearly

¹ Lockyer, *Elementary Lessons in Astronomy* (1907), p. 350.

² See my paper in *J. R. A. S.*, 1911, p. 110.

³ That is, according to the equal-space system, by which each *nakṣatra* measures $13^\circ 30'$.

⁴ See his *Śiṣyagadhyāyikā*, ed. Sudhakara Dīvedī, Benares, 1886, p. 10 verses 59, 60; p. 50 verses 18, 19.

motion, and 4·8 divided by 0·3 = 16, this *bija* had the effect of increasing the revolutions of Saturn in such a period from 146,564 to 146,580¹; and (since the number of days in the *exeligmos* remained the same) of increasing also the mean daily motion, and of shortening the period of revolution. Thus, according to Lalla,—

The mean yearly motion became—

$$\frac{146580 \times 360^\circ}{4320000} = 12^\circ.215 = 12^\circ 12' 54''$$

The mean daily motion became—

$$\begin{aligned} \frac{146580 \times 360^\circ \times 60'}{1577917500} &= 2'.0065231547... \\ &= 2' 0''.3913892836... \end{aligned}$$

And Saturn's period of revolution became—

$$\begin{aligned} \frac{1577917500}{146580} &= 10764.8894801473... \text{ days} \\ &= 29.4726611366... \text{ Julian years} \\ \text{or (say) } 29\text{y. } 5\text{m. } 20.45198\text{d.} \end{aligned}$$

The place of Saturn according to Lalla is got by adding 4·8 for each year after Śaka 420 expired. = Kaliyuga 3599 expired, to his place as found according to the *First Ārya-Siddhānta*

Original Sūrya-Siddhānta.

This work is only known from Varāhamihira's statements about it in his *Pañchasiddhāntikā*, which was written about A.D. 550.² The *Siddhānta* itself (its author is not known) seems to date from much about the same time with the *First Ārya-Siddhānta*, but is perhaps rather earlier than that work. The *Pañchasiddhāntikā* has been edited by Dr. Thibaut and the *Mahāmahāpādhyāya* Sudhakara Dvivedi, with a Sanskrit commentary by the editors and an English translation (Benares, 1889). Here the elements are:—

146,564 revolutions of Saturn in 4,320,000 years comprising 1,577,917,800 days.³

The number of revolutions being the same, the mean yearly motion is also exactly the same as by the *First Ārya-Siddhānta*; viz.—

$$\frac{146564 \times 360^\circ}{4320000} = 12^\circ.2136 = 12^\circ 12' 49''.2$$

and so the place of Saturn according to this work at the beginning of a year differs from his place according to the *First Ārya-Siddhānta* only in proportion to the time by which the mean *Mēsha-samkrānti* of this work differs from that of the mean *Mēsha-samkrānti* of the *First Ārya-Siddhānta*.

The number of days being more by 300, the mean daily motion is slightly less, viz.—

$$\begin{aligned} \frac{146564 \times 360^\circ \times 60'}{1577917800} &= 2'.0063037504... \\ &= 2' 0''.3782250252.. \end{aligned}$$

¹ Lalla, however, did not put his corrections in this shape.

² There is a very useful paper on the *Original Sūrya-Siddhānta*, by Sh. B. Dikshīt, in the *Indian Antiquary*, Vol. 19 (1890), p. 45. It seems likely that the text of the work might be found in Burma or Arakan, as it has been followed there down to quite recent times: see, e.g., Sir Alfred Irwin's *Burmese and Arakanese Calendars* (1900), p. 3, and his "Elements of the Burmese Calendar from A.D. 638 to 1752" in *Ind. Ant.*, 1910, p. 289.

³ The actual *exeligmos* or calculative period of this work is one of 180,000 years comprising 65,746,575 days, and the numbers of the revolutions of the planets are not stated in actual words. The editors have worked out the numbers of the revolutions for the longer *exeligmos* from the details given in *Pañchasiddhāntikā*, Chapter 16; see trans., p. 91; comment., p. 88; introd., p. 19.

Saturn's period has been given on p. 612 above. It follows that he spends—

in one sign . 897.1722251030 . days, =
2.4563236826... Julian years, or (say)—
2y. 5m. 14.48473d.; and—
in one *nakshatra* 398.7432111569 . days, or (say)—
398d. 17h. 50.22407m.

Present Sūrya-Siddhānta.

This work is well known from the translation by E. Burgess, with Whitney's invaluable notes, published in the *Journal of the American Oriental Society*, Vol. 6 (1860), pp. 141-498.¹ Its text, with the commentary by Raṅganātha, has been given by F. E. Hall and Pandit Bapu Deva Sastri in the *Bibliotheca Indica* series (Calcutta, 1859) and by Pandit Hari Shankar (Benares, 1881). It is not known when and by whom the work was written. But, as was pointed out by Whitney (*loc. cit.*, p. 424), its general system is older than that of Bhāskarāchārya's *Siddhānta Śīrōmaṇi* (written A.D. 1150). And Sh. B. Dikshit has said that it superseded the *Original Sūrya-Siddhānta* probably not later than A.D. 1000.² Bhaṭṭotpala, writing his commentary on the *Bṛīhat-Saṁhitā*, Chapter 2, at some time about A.D. 966 does not seem to quote there any of the elements in which the *Present* differs from the *Original Sūrya-Siddhānta*. According to this work, the elements in our present matter are:—

146,568 revolutions of Saturn in 4,320,000 years comprising 1,577,917,828 days; which figures increase the yearly and daily motion and shorten the period of revolution.

The mean yearly motion is—

$$\frac{146568 \times 360^\circ}{4320000} = 12^\circ.214 = 12^\circ 12' 50''.4$$

The mean daily motion is—

$$\frac{146568 \times 360^\circ \times 60'}{1577917828} = 2'.0063584705... \\ = 2' 0''.3815082314...$$

Saturn's period has been given on p. 601 above. It follows that he spends—

in one sign . 897.1477562178... days, =
2.4562566905... Julian years, or (say)—
2y. 5m. 14.40026d.; and—
in one *nakshatra* 398.7323360968... days, or (say)—
398d. 17h. 34.56398m.

The elements of the *Present Sūrya-Siddhānta*, that is, its number of days for the 4,320,000 years and its numbers of the revolutions of the planets in that period, may be regarded as the results of *bijas* or corrections applied to the *Original Sūrya-Siddhānta*. To the *Present Sūrya-Siddhānta* itself certain *bijas* were applied in the fifteenth century, with effect from the beginning of the Kaliyuga; and by one of them the number of revolutions of Saturn was raised to 146,580 in the *exeligmos* of the same number of years and days.³

¹ There is also a translation, with a few notes, by Pandit Bapu Deva Sastri (Calcutta, 1861).

² *Indian Calendar*, p. 8.

³ For a useful note on these *bijas*, see Sh. B. Dikshit's *Bhāratīya-Jyōtiḥśāstra* or "History of Indian Astronomy," p. 184. Who devised these corrections is not known; but they are stated in the shape of the resulting numbers of the revolutions, in the *Makaraṇḍa*, a work composed by an author of that same name, a resident of Benares, who is believed to have written it in A.D. 1478. It seems to be only by a coincidence that the number of revolutions thus assigned to Saturn, viz. 146,580, is the same with that which results from the correction for Saturn applied by Lalla to the *First Sūrya-Siddhānta*.

This further raised—

the mean yearly motion to $12^{\circ}215=12^{\circ}12'54''$, and

the mean daily motion to $2'0''3913642560...$;

and reduced—

the period of revolution to 107648917178332... days.

The place of Saturn according to this *hija* is got by adding $3'6''$ for each year, from the beginning of the Kaliyuga, to his place as found according to the *Present Sūrya-Siddhānta*.

EXAMPLES.

The place of Saturn means here his place by mean motion; that is, his mean longitude.

The times are for mean sunrise, 6.0 A.M., at Ujjain, the Hindū Greenwich.

The *nakshatras* are taken according to the equal-space system, by which each of them measures $13^{\circ}20'$.¹

1. What was the place of Saturn, according to the *First Ārya-Siddhānta*, at mean sunrise on 25 August, A.D. 458, on which day there began the *tithi* Āśvina śukla 1, Śaka 380 expired?

Śaka 380 expired being the Kaliyuga year 3559 expired, we proceed as follows; omitting the revolutions as not being wanted for present purposes, but bearing in mind that every twelve signs add one more revolution, and that we have to take into account here only the excess over the revolutions:—

By Table I, col. A:—

| | Signs. | ° | ' | '' |
|-----------------------|--------|----|----|----|
| years: 3000 | 9 | 11 | 0 | 0 |
| 500 | 11 | 16 | 50 | 0 |
| 50 | 8 | 10 | 41 | 0 |
| 9 | 3 | 19 | 55 | 23 |

Place of Saturn at mean Māsha-samkrānti, Śaka 380 expired,

viz. on 20 March, A.D. 458, at $15^{\text{h}}27^{\text{m}}2$ 8 28 26 23

We reduce this for mean sunrise on that same day by deducting his motion for $15^{\text{h}}27^{\text{m}}$ or say $15^{\text{h}}24^{\text{m}}$, at 1 hour= 5° and 12 minutes= $1'$, = $77'$, = $1^{\circ}17'$:—

| | | | | |
|---|---|----|----|----|
| from | 8 | 28 | 26 | 23 |
| deduct for $15^{\text{h}}24^{\text{m}}$ | | | 1 | 17 |

Place of Saturn at mean sunrise on 20 March, A.D. 458 8 28 25 6

Since 20 March is the day 79 of the year A.D. 458,² and 25 August is the day 237,³ we proceed for $237-79=158$ days, which will take us from any particular moment (in this case, mean sunrise) on 20 March to the same moment on 25 August:—

| | Signs. | ° | ' | '' |
|-----------------------------------|--------|----|----|----|
| Therefore to | 8 | 28 | 25 | 6 |
| add for days (Table II, Part A):— | | | | |
| days: 100 | | 3 | 20 | 28 |
| 50 | | 1 | 40 | 19 |
| 8 | | | 16 | 3 |

Place of Saturn at mean sunrise on 25 August, A.D. 458 9 3 42 6

¹ For the necessary details of the *nakshatras*, according to both this system and the two systems of unequal spaces, see Sewall's *Indian Chronology*, Table 22.

² See *Indian Calendar*, Table I. [R. S.]

³ *Ind. Cal.*, Table LXIX, or above, Table LXIX. [R. S.]

Accordingly, at mean sunrise on the given day, Saturn had completed nine signs of his current revolution, and was at the point $3^{\circ} 42' 6''$ of the tenth sign Makara (Capricornus).

Also, since $9^{\circ} 3' = 273^{\circ}$, and the *nakshatra* Uttara-Ashādhā begins at $266^{\circ} 40'$ and ends at 80° , he was at the point $273^{\circ} 42' 6'' - 266^{\circ} 40' = 7^{\circ} 2' 6''$ of that *nakshatra*.

2. When, according to the *First Ārya-Siddhānta*, did Saturn enter the *nakshatra* Uttara-Ashādhā, in which, as we have found above, he was on 25 August, A.D. 458, in Śaka 380 expired?

It is seen almost at a glance that this must have been before the beginning of Śaka 380 expired, i.e., in the preceding Śaka year. Accordingly, we proceed as follows:—

From Example 1:—

| | Signs. | ° | ' | '' |
|---|--------|-----|----|----|
| Place of Saturn at mean Mēsha-samkrānti, Śaka 380 expired | 8 | 28 | 26 | 23 |
| Deduct mean yearly motion for one year (Table I. col. A) | | 12 | 12 | 49 |
| Place of Saturn at mean Mēsha-samkrānti, Śaka 379 expired, | | | | |
| on 20 March, A.D. 457, at $9^h 14^m$ ¹ | 8 | 16 | 13 | 34 |
| Deduct for $9^h 14^m$, or say $9^h 12^m$, at $1^h = 5'$ and $12^m = 1''$ | | | | 46 |
| Place of Saturn at mean sunrise on 20 March, A.D. 457 | 8 | 16 | 12 | 48 |
| Since $8^{\circ} 16' = 256^{\circ}$, and Uttara-Ashādhā begins at $266^{\circ} 40'$,— | | | | |
| from | | 256 | 40 | 0 |
| deduct place at mean sunrise on 20 March, A.D. 457 | | 256 | 12 | 48 |
| remainder | | 10 | 27 | 12 |

This remainder is the distance which Saturn then had to go to enter Uttara-Ashādhā. It amounts to $627' 12''$, which, at $2'$ per day, represents roughly (but appreciably less than) $313\frac{1}{2}$ days. We try for 312 days:—

| | | | |
|--------------------------------------|----|----|----|
| distance to go | 10 | 27 | 12 |
| deduct for days (Table II, Part A):— | | | |
| days: 300 | 10 | 1 | 53 |
| 10 | | 20 | 4 |
| 2 | | 4 | 1 |
| | 10 | 25 | 58 |
| remainder still to go | | 1 | 14 |

This remainder being less than the mean motion for one day, viz. $2'$, we see that we have got the right day.

Now, 29 March being the day 79^{th} of the year A.D. 457, we have $79 + 312 = 391 - 365 = 26$, which takes us from any particular moment (in this case, mean sunrise) on 20 March, A.D. 457, to the same moment on 26 January, A.D. 458. Accordingly, we have:—

| | | | |
|---|-----|----|----|
| Place of Saturn at mean sunrise on 20 March, A.D. 457 | 256 | 12 | 48 |
| add for 312 days, as above | 10 | 25 | 58 |
| Place of Saturn at mean sunrise on 26 January, A.D. 458 | 266 | 38 | 46 |

¹ See *Indian Calendar*, Table I. [R. S.]

² Table IX, *Indian Calendar*, or Table LXIX above. [R. S.]

Saturn then still had to go $1^{\circ} 14'$, or say $1^{\circ} 15'$, to enter Uttara-Ashāḍhā : and at 5° per hour this represents $75 \div 5 = 15$ hours.

Accordingly, he entered Uttara-Ashāḍhā at 15 hours after mean sunrise on 26 January, A.D. 458.

3. In the same period, and again according to the *First Ārya-Siddhānta*, on what day did Saturn leave Uttara-Ashāḍhā and enter the next *nakshatra* Śravana ?

This can be got from what we have worked under Example 2, thus :—

We have found there that Saturn entered Uttara-Ashāḍhā at 15 hours after mean sunrise on 26 January, A.D. 458.

His time in each *nakshatra* (see p. 602 above) is $398^d 17^h 50^m 11490^s$.

| | d. | h. | m. |
|--|-----|----|-----|
| To the day and time in January, A.D. 458 | 26 | 15 | 0 |
| add for one <i>nakshatra</i> | 398 | 17 | 50 |
| | 425 | 8 | 50 |
| deduct days— | | | |
| in A.D. 458 | 365 | | |
| in Jan., A.D. 459 | 31 | | |
| in Feb., „ | 28 | = | 424 |
| remainder | 1 | 8 | 50 |

That is, he left Uttara-Ashāḍhā and entered Śravana at $8^h 50^m$ after mean sunrise on the day 1 after 28 February, that is, on 1 March, A.D. 459.

Remark.—By actual working from the mean Mēsha-saṁkrānti in A.D. 458, we should find the time to be 9 hours. The difference, 10 minutes, = less than 1° of longitude, is due to the way in which we have worked, and is negligible for present purposes : we only wanted to fix the day ; and the time is so far from sunrise as to leave no doubt as to that. But this process of carrying on—(and so, also, that of carrying back, used under Example 2 by deducting for a year instead of making a separate calculation)—must be used cautiously.

I. MEAN YEARLY MOTION.

"Rev."—complete revolutions "Sign."—sign of the zodiac.

| years. | A. | | | | | B. | | | | |
|--------|--|-------|----|----|------|--------------------------|-------|----|----|------|
| | FIRST ĀRYA- AND ORIGINAL ŚĀRYA-SIDDHANTAS. | | | | | PRESENT ŚĀRYA-SIDDHANTA. | | | | |
| | Rev. | Sign. | ° | ' | " | Rev. | Sign. | ° | ' | " |
| 1 | | | 12 | 12 | 49.2 | | | 12 | 12 | 50.4 |
| 2 | | | 24 | 25 | 38.4 | | | 24 | 25 | 40.8 |
| 3 | | 1 | 6 | 38 | 27.6 | | 1 | 6 | 38 | 31.2 |
| 4 | | 1 | 18 | 51 | 16.8 | | 1 | 18 | 51 | 21.6 |
| 5 | | 2 | 1 | 4 | 6.0 | | 2 | 1 | 4 | 12.0 |
| 6 | | 2 | 13 | 16 | 55.2 | | 2 | 13 | 17 | 2.4 |
| 7 | | 2 | 25 | 29 | 44.4 | | 2 | 25 | 29 | 52.8 |
| 8 | | 3 | 7 | 42 | 33.6 | | 3 | 7 | 42 | 43.2 |
| 9 | | 3 | 19 | 55 | 22.8 | | 3 | 19 | 55 | 33.6 |
| 10 | | 4 | 2 | 8 | 12.0 | | 4 | 2 | 8 | 24.0 |
| 20 | | 8 | 4 | 16 | 24.0 | | 8 | 4 | 16 | 48.0 |
| 30 | 1 | 0 | 6 | 24 | 36.0 | 1 | 0 | 6 | 25 | 12.0 |
| 40 | 1 | 4 | 8 | 32 | 48.0 | 1 | 4 | 8 | 33 | 36.0 |
| 50 | 1 | 8 | 10 | 41 | 0.0 | 1 | 8 | 10 | 42 | 0.0 |
| 60 | 2 | 0 | 12 | 49 | 12.0 | 2 | 0 | 12 | 50 | 24.0 |
| 70 | 2 | 4 | 14 | 57 | 24.0 | 2 | 4 | 14 | 58 | 48.0 |
| 80 | 2 | 8 | 17 | 5 | 36.0 | 2 | 8 | 17 | 7 | 12.0 |
| 90 | 3 | 0 | 19 | 13 | 48.0 | 3 | 0 | 19 | 15 | 36.0 |
| 100 | 3 | 4 | 21 | 22 | 0.0 | 3 | 4 | 21 | 24 | 0.0 |
| 200 | 6 | 9 | 12 | 44 | 0.0 | 6 | 9 | 12 | 48 | 0.0 |
| 300 | 10 | 2 | 4 | 6 | 0.0 | 10 | 2 | 4 | 12 | 0.0 |
| 400 | 13 | 6 | 25 | 28 | 0.0 | 13 | 6 | 25 | 36 | 0.0 |
| 500 | 16 | 11 | 16 | 50 | 0.0 | 16 | 11 | 17 | 0 | 0.0 |
| 600 | 20 | 4 | 8 | 12 | 0.0 | 20 | 4 | 8 | 24 | 0.0 |
| 700 | 23 | 8 | 29 | 34 | 0.0 | 23 | 8 | 29 | 48 | 0.0 |
| 800 | 27 | 1 | 20 | 56 | 0.0 | 27 | 1 | 21 | 12 | 0.0 |
| 900 | 30 | 6 | 12 | 18 | 0.0 | 30 | 6 | 12 | 36 | 0.0 |
| 1000 | 33 | 11 | 3 | 40 | 0.0 | 33 | 11 | 4 | 0 | 0.0 |
| 2000 | 67 | 10 | 7 | 20 | 0.0 | 67 | 10 | 8 | 0 | 0.0 |
| 3000 | 101 | 9 | 11 | 0 | 0.0 | 101 | 9 | 12 | 0 | 0.0 |
| 4000 | 135 | 8 | 14 | 40 | 0.0 | 135 | 8 | 16 | 0 | 0.0 |
| 5000 | 169 | 7 | 18 | 20 | 0.0 | 169 | 7 | 20 | 0 | 0.0 |

II. Mean daily motion.

A. For all the three Siddhāntas: with even seconds.

For parts of a day, 1 hour = 5°; 12 minutes = 1°.

| days. | ° | ' | " | days. | ° | ' | " | days. | ° | ' | " | days. | ° | ' | " |
|-------|---|----|---|-------|---|----|---|-------|---|----|----|-------|----|----|-----|
| 1 | | 2 | 0 | 6 | | 12 | 2 | 20 | | 40 | 9 | 70 | 2 | 20 | 26* |
| 2 | | 4 | 1 | 7 | | 14 | 3 | 30 | 1 | 0 | 11 | 80 | 2 | 40 | 30* |
| 3 | | 6 | 1 | 8 | | 16 | 3 | 40 | 1 | 20 | 15 | 90 | 3 | 0 | 4 |
| 4 | | 8 | 2 | 9 | | 18 | 3 | 50 | 1 | 40 | 19 | 100 | 3 | 20 | 38 |
| 5 | | 10 | 2 | 10 | | 20 | 4 | 60 | 2 | 0 | 23 | 200 | 6 | 41 | 16 |
| | | | | | | | | | | | | 300 | 10 | 1 | 3* |

a For the *Present Sārya-Siddhānta*, the seconds here are 27.

b For the *Present Sārya Siddhānta*, the seconds here are 31.

c For the *Present Sārya Siddhānta*, the seconds here are 54.

B. For the separate Siddhāntas: with actual seconds.

| FIRST ĀRYA. | | | | ORIGINAL ŚĪRYA. | | | PRESENT ŚĪRYA. | | |
|-------------|----|----|--------|-----------------|----|--------|----------------|----|--------|
| days. | ° | ' | " | ° | ' | " | ° | ' | " |
| 1 | | 2 | 0.378 | | 2 | 0.378 | | 2 | 0.382 |
| 2 | | 4 | 0.756 | | 4 | 0.756 | | 4 | 0.762 |
| 3 | | 6 | 1.135 | | 6 | 1.135 | | 6 | 1.145 |
| 4 | | 8 | 1.513 | | 8 | 1.513 | | 8 | 1.526 |
| 5 | | 10 | 1.891 | | 10 | 1.891 | | 10 | 1.908 |
| 6 | | 12 | 2.269 | | 12 | 2.269 | | 12 | 2.289 |
| 7 | | 14 | 2.648 | | 14 | 2.648 | | 14 | 2.671 |
| 8 | | 16 | 3.026 | | 16 | 3.026 | | 16 | 3.052 |
| 9 | | 18 | 3.404 | | 18 | 3.404 | | 18 | 3.434 |
| 10 | | 20 | 3.782 | | 20 | 3.782 | | 20 | 3.815 |
| 20 | | 40 | 7.565 | | 40 | 7.565 | | 40 | 7.630 |
| 30 | 1 | 0 | 11.347 | 1 | 0 | 11.347 | 1 | 0 | 11.445 |
| 40 | 1 | 20 | 15.130 | 1 | 20 | 15.129 | 1 | 20 | 15.260 |
| 50 | 1 | 40 | 18.912 | 1 | 40 | 18.911 | 1 | 40 | 19.075 |
| 60 | 2 | 0 | 22.695 | 2 | 0 | 22.694 | 2 | 0 | 22.890 |
| 70 | 2 | 20 | 26.477 | 2 | 20 | 26.476 | 2 | 20 | 26.706 |
| 80 | 2 | 40 | 30.260 | 2 | 40 | 30.258 | 2 | 40 | 30.521 |
| 90 | 3 | 0 | 34.042 | 3 | 0 | 34.040 | 3 | 0 | 34.336 |
| 100 | 3 | 20 | 37.825 | 3 | 20 | 37.823 | 3 | 20 | 38.151 |
| 200 | 6 | 41 | 15.650 | 6 | 41 | 15.645 | 6 | 41 | 16.302 |
| 300 | 10 | 1 | 53.474 | 10 | 1 | 53.468 | 10 | 1 | 54.452 |



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